TEXTILE TECHNOLOGY DIGEST

VOLUME 5 JUNE 1948 NUMBER 6

Abstracts

ORGANIC FIBERS I

Fibers. Synthetic fibers. Anon. *Textile Mercury & Argus 116,* 711-12, 745, 747 (May 16 & 23, 1947).

A review of the manufacture, properties and uses of Vinyon, Aralac, Fiberglas, and Terylene. TTD: 6-48

Vegetable fibers I 1

Cotton. Discovering cotton. Leonard Smith & Geo. S. Buck, Jr., Natl. Cotton Council. *Textile Colorist 69,* No. 11, 41, 62-4 (Nov. 1947).

Qualities of cotton including absorbency, strength, launderability, color fastness, and dimensional stability are discussed in relation to future research. A brief description of the structure of the cotton fiber is also given. TTD : 6-48

Flax. Postwar developments in processing of flax. Flaxman. *Textile Mercury & Argus 116,* 951, 953, 955 (July 4, 1947).

A review of developments in flax fiber production. TTD : 6-48

FLAX AND LINEN INDUSTRY IN BELGIUM. Georges Impe. Natl. Assn. Belgian Flax Weavers, 10 Casino Sq., Courtrai, Belgium; 44 pp.

Reviewed in *Textile World 97,* No. 12, 254 (Dec. 1947). TTD : 6-48

Animal fibers I 2

WOOL IN UNITED STATES. Anon. Natl. Assn. of Wool Mfrs., 386 Fourth Ave., New York; 34 pp.

Reviewed in *Textile World 97,* No. 12, 254 (Dec. 1947). TTD : 6-48

Artificial fibers I 3

Rayon alginates. Textiles from seaweed. G. Fitzgerald-Lee. *Textile Mercury & Argus 116,* 945-6, 948 (July 4, 1947).

A discussion of the various kinds of seaweed and its production into alginate fibers. The properties and use of alginate yarn as "scaffolding thread" are reviewed. The future of all-alginate fabrics, claimed to be equal to the best rayon, is also discussed. TTD: 6-48

Seaweed rayon. Production, properties and uses of seaweed rayon. J. B. Speakman, Leeds University. *Papers Am. Assn. Textile Technologists 3,* 41-55 (Dec. 1947).

Seaweed contains a large percentage of alginic acid which is readily extracted and can be used in the manufacture of alginate rayons. A discussion of the production, properties and uses of this seaweed rayon is given. TTD : 6-48

Crinkled filaments. Wm. I. Taylor (to Brit. Celanese Ltd.). USP 2 431 435, Nov. 25, 1947.

Crinkled cellulose ester filaments or artificial wool is hardened by spinning a solution or "dope" of lowered viscosity at a lowered temperature in an evaporative medium of lowered temperature.
WHH TTD: 6-48

Cellulose esters and ethers. Henry Dreyfus. USP 2 432 517, Dec. 16, 1947.

The undesirable action of ultraviolet light on cellulose esters and ethers or compositions containing them can be greatly reduced by the incorporation of from 1 to 10% of a naphthyl ester of an aromatic hydroxy monocarboxylic acid, such as 2-naphthyl salicylate.
WPU, jr. TTD: 6-48

Stabilizing cellulose esters. Wm. Horback & Walter D. Paist (to Celanese Corp. of Am.). USP 2 432 521, Dec. 16, 1947.

Cellulose acetate is protected from the harmful effects of ultra-violet light by surface treatment with an aryl ester of salicylic acid, e.g. phenyl salicylate.
MC TTD: 6-48

Rayons I 3 a

Cellulose derivative. Wm. H. Charch & Francis B. Cramer (to E. I. du Pont de Nemours & Co.). USP 2 430 911, Nov. 18, 1947.

The hydroxyl groups of cellulose or of cellulose derivatives, e.g. secondary cellulose acetate, are converted to alkoxylmethyl ether groups by the action of formaldehyde and a lower aliphatic alcohol in an inert organic solvent in the presence of an aromatic sulfonic acid.
MC TTD : 6-48

Viscose spinning solutions. Rudolph S. Bley (to North Am. Rayon Corp.). USP 2 432 085, Dec. 9, 1947.

It is claimed that the addition of a type of cation-active substance to viscose solutions or spinning baths, especially zinc-bearing spinning baths, will act as an incrustation inhibitor and thus prevent or materially reduce the clogging of the spinneret holes. The physical characteristics of the regenerated cellulose filaments, such as strength, plasticity, lustre, etc., will not be materially altered if the concentration of the additive is properly selected.
GNR TTD : 6-48

Ripening cellulose esters. Clifford I. Haney & Mervin E. Martin (to Celanese Corp. of Am.). USP 2 432 153, Dec. 9, 1947.

It is claimed that organic cellulose esters of improved stability are produced if the ripening process is carried out by injecting a mixture of steam and vapors of one of the lower aliphatic acids. This serves to agitate the ripening solution and at the same time raises the temperature which must not be allowed to go above 70°C.
GNR TTD : 6-48

Cellulose esters. Geo. W. Seymour & Mervin E. Martin (to Celanese Corp. of Am.). USP 2 432 341, Dec. 9, 1947.

It is claimed that increased stability in organic cellulose esters as well as an improved molding powder is obtained by a process which involves the neutralization and dilution of the primary esterification mixture, heating with steam to 60-90°C., following by acidification with a mineral acid such as sulfuric acid, ripening for a short time at the normal ripening temperatures, and finally, neutralization, using an excess of the neutralizing agent.
GNR TTD: 6-48

Viscose rayon manufacture. Alfred S. Brown (to Skenandoa Rayon Corp.). USP 2 433 733, Dec. 30, 1947.

Improved tenacity and homogeneity in viscose rayon yarn is claimed by a new process of wet-stretching. After the yarn has been coagulated according to customary practice in a bath containing 7-10% sulfuric acid with auxiliary compounds and then has been transferred in a relaxed state to be coagulated further in a second bath of "hot dilute acid" the stretching process occurs.
LCL TTD : 6-48

Alkali cellulose. Spacious ripening bins for alkali cellulose. Jesse, Rheinische Kunstseide A. G. Ger. P. 706 364, May 24, 1941. *Bibl. Sci. Ind. Reports 4,* 1010 (Mar. 14, 1947). 3 pp. TTD: 6-48

Viscose. Process for manufacturing matted artificial shapes from viscose. Feldmühle A. G. Ger. P. 707 305, June 18, 1941. *Bibl. Sci. Ind. Reports 4,* 1006 (Mar. 14, 1947).

The viscose contains titanium dioxide. The pigment is made into a paste with liquid paraffin and sulfonated mineral oil before emulsification with the spinning solution. TTD : 6-48

Alkali cellulose. Device for continuous xanthation of alkali cellulose. Sixthor, Viscosa Gesellschaft M. B. H. und Sixthor (Franz), Chemnitz. Ger. P. 707 649. June 28, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 1098 (Mar. 21, 1947). TTD: 6-48

Cellulose esterification. Process for esterification of cellulose with organic acids with retention of fiber structure. Marschall, Deutsche Acetat-Kunstseiden A. G. Ger. P. 715 929, Jan. 9, 1942. *Bibl. Sci. Ind. Reports 4,* 1005 (Mar. 14, 1947). TTD: 6-48

Protein fibers — I 3 b

Protein fibers. Know your synthetic protein fibers. Geo. H. Brother, Western Regional Research Laboratory. *Plastics 7,* No. 4, 52, 54-6 (Oct. 1947).

Recent developments in the production of protein fibers are reviewed. It is concluded that proteins are too complex and diverse in structure to offer much hope for the development of products such as synthetic fibers by purely empirical methods. A thorough study of protein chemistry appears to be the more logical approach. There is an extensive bibliography. TTD: 6-48

Protein fiber. Leon Lis & Ralph Horton (to Aralac, Inc.). USP 2 432 776, Dec. 16, 1947.

Spun filaments of animal and vegetable caseins which are alkali-dispersible and acid-coagulable are processed in a coagulating bath containing suspended kaolin, talc, bentonite, etc., with the result that they may be elongated in the preferred manner prior to hardening without adherence and formation of tight bundles which are difficult to card. As most of the kaolin, etc. slough off in the hardening bath, the fibers are not modified to the extent of interfering with their normal use.
WHH TTD : 6-48

Casein fibers. Process for preparation of rayon threads from casein. N. V. Onderzoekingsinstitut Research. Ger. P. 718 365, Mar. 10, 1946. *Bibl. Sci. Ind. Reports 4,* 1009 (Mar. 14, 1947). TTD: 6-48

Synthetic fibers I 4

Synthetic fibers. Vinyon N is being produced in 7 types. C. W. Bendigo. *Textile World 98,* No. 4, 116-7 (Apr. 1948).

A flow-sheet and descriptive tables compare the 7 types of Vinyon N now made. Shrinkage and stress-strain curves are indicated.
LCL TTD: 6-48

Vinyon. Review of Vinyon development. Frederic Bonnet, Am. Viscose Corp. *Papers Am. Assn. Textile Technologists 3,* 35-40 (Dec. 1947).

The development, properties and uses of Vinyon fibers are reviewed. The principal application to date is in commercial filter cloths. TTD : 6-48

Vinyon N fibers. Some properties and uses of Vinyon type N fibers. Eldon Stowell, Bakelite Corp. *Papers Am. Assn. Textile Technologists 3,* 30-4 (Dec. 1947); *Rayon Textile Monthly 29,* No. 1, 43-4 (Jan. 1948).

A review of the manufacturing process, including processing and dyeing; properties; types; and applications of Vinyon type N fibers. TTD: 6-48

Polyvinyl alcohol filaments. Gustavus J. Esselen & Martin H. Gurley, Jr. (to Pro-phy-lac-tic Brush Co.). USP 2 430 499, Nov. 11, 1947.

Addition of a small quantity of lauryl pyridinium chloride to the aqueous spinning solution improves the feel and draping properties of polyvinyl alcohol filaments.
MC TTD : 6-48

Treating nylon. Allan K. Schneider (to E. I. du Pont de Nemours & Co.). USP 2 430 953, Nov. 18, 1947.

A skein of undrawn polyamide is placed in a solution of paraformaldehyde, methanol and oxalic acid at 64°C for 8 minutes. After rinsing with ammonium hydroxide and drying at 25°C, analysis shows 6% of the amide groups are substituted with a mixture of N-methylol and N-methoxymethyl groups. After cold drawing, soaking in oxalic acid, drying, baking and rinsing, a yarn is obtained which yields a fabric that is softer, more resilient and less easily creased than similar fabrics made from untreated yarn.
WHH TTD : 6-48

Polyamide solution. Wm. W. Watkins (to E. I. du Pont de Nemours & Co.). USP 2 431 783, Dec. 2, 1947.

Extruded filaments, films, and other structures prepared from phenolic solutions of polyamides are rendered clear and transparent by inclusion of certain alkalies in the polymer solution.
MC TTD : 6-48

Stabilization of acrylonitrile. Harold S. Davis & Oscar F. Wiedeman (to Am. Cyanamid Co.). USP 2 432 511, Dec. 16, 1947.

Stabilization of acrylonitrile, to prevent deterioration during storage and shipment, is accomplished by adding ammonia, ammonium carbonate, or a cyanoethylamine. These are effective in 0.1% or lower concentrations.
WPU, jr. TTD : 6-48

Filters. Filter leaves made of fibers or polymeric hydrocarbons or their chlorine-containing derivatives or their copolymers. Hubert & Rein, I. G. Farbenindustrie A. G. Ger. P. 724 022, Aug. 15, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 1006 (Mar. 14, 1947). TTD: 6-48

Fiber applications I 5

Hats. Weatherproofing hats for men. Anon. *Plastics 6,* No. 1, 37 (Jan. 1947).

A hat which will retain its shape and resist shrinkage is composed of Vinyon and wool felt. It may be formed either by directly mixing the fibers or by incorporating the Vinyon fibers as a lamination between 2 layers of the wool felt. TTD : 6-48

Unwoven fabrics. Their future in the textile industry. Oliver G. Edwards, Industrial Research Inst., Univ. of Chattanooga. *Am. Dyestuff Reptr. 37,* No. 4, P131-2 (Feb. 23, 1948).

A brief review is made of the history and types of unwoven fabrics, the methods of manufacturing them, and their uses.
WPU, jr. TTD : 6-48

Felt. Carleton S. Francis, Jr. (to Am. Viscose Corp.). USP 2 430 868, Nov. 18, 1947.

A process is described for making thick, low density felts by mixing layers of fibers and thermoplastic resins with non-thermoplastic fibers by the action of steam while the mass is held between confining porous plates. Time, temperature, and steam pressure may be varied. Surface glaze, loss of porosity and stiffness produced by pressing are thus avoided.
WHH TTD : 6-48

Fiber processing I 6

Wool scouring. Quantitative test method for evaluating wool scouring detergent systems. E. A. Leonard & A. R. Winch, Alexander Smith & Sons Carpet

Co. *Am. Dyestuff Reptr. 37*, No. 6, 202-208 (Mar. 22, 1948).

A laboratory scouring train was assembled with readily available materials, and used to study the scouring of uniformly soiled wool skeins under conditions approximating those used in mill scouring. Scouring curves were constructed from the data on grease content of scoured wool. From the curves the relative costs per pound of material scoured could be estimated for the various detergent combinations. Wool scouring processes appear capable of control by metered additions of fresh detergent on the basis of the weight of wool scoured.

WPU, jr. TTD : 6-48

INORGANIC FIBERS II

Glass fiber textiles. Dyeing of glass fiber textiles. Gerd M. Bloomfield. PB 58445, Nov. 1946. 8 pp. *Bibl. Sci. Ind. Reports 4*, 964 (Mar. 14, 1947). Price: $1.00 (Microfilm or Photostat).

This report describes a process for dyeing or sizing of glass fiber textiles made from glass staple fiber or continuous filament. All shades and tints of colors except deep black can be obtained, and the sizing process results in rendering glass fiber cloth water-repellent. The process consists in pretreating the glass cloth on a jigger with a dilute (0.3-0.5%) solution of sodium hydroxide containing Igepol C or a similar degreasing agent at about 60°C. The developer of the process was Rudolph Lang, once employed by the I. G. Farbenindustrie A. G. at Reichenberg. Lang stated that Dr. H. Freitag of the Deutsche Glastechnische Gesellschaft, Frankfurt, had worked on the basis of Lang's method. TTD: 6-48

Insulation. German mineral wool and heat insulation industries. E. E. Gaunt. PB L 58243, Apr. 1946. 35 pp. *Bibl. Sci. Ind. Reports 4*, 964 (Mar. 14, 1947). Price: $1.00 (Microfilm); $3.00 (Photostat).

The scope of the enquiry was limited to the manufacture and use of slagwool, rock wool and glasswool or fiber, for thermal and acoustic insulation, although note was taken of any other uses to which these materials were put in Germany. The historical background, operating technique, etc., in slagwool manufacture and production capacities of the various producers or slagwool and rockwool in the order of their importance are given It was concluded from an examination of the plants, described in this report, that the German slagwool industry had made little or no progress since 1938.

TTD: 6-48

Mineral wool. Mineral wool plant, Gelsenkirchener Eisenwerk. M. O. Sem. PB 58246, Mar. 1946. 4 pp. *Bibl. Sci. Ind. Reports 4*, 966 (Mar. 14, 1947). Price: $1.00 (Microfilm or Photostat).

This company originally had 9 furnaces of which 7 were in the iron plant and were destroyed. The 2 furnaces at the harbor are in good working order and each produces approximately 8 tons of mineral wool a day. The raw material is made up from slag sculls from ladles. The slag is obtained when producing foundry iron. This is ordinarily mixed with some $CaCO_3$, although not more than 5%, as otherwise the furnace would be too cold. The wool should contain about 35% SiO_2 and 17% Al_2O_3, 40% CaO, 5% MgO, and 3% Fe_2O_3. Previously no fabrication was done in the plant, but the raw wool sold to the fabricating firms. However, this policy has been revised to some extent, and a number of machines installed for spinning wool cords with thin iron wire. The wire serves to hold the wool together. Cords of 30 to 50 mm. diameter are produced, and are used as "ersatz" for asbesos. Steamboilers, ventilators, a small workshop, office and cloak room with a well-equipped bath for the workmen, comprise the equipment of the plant. The company is planning to extend the plant to make up for the destroyed furnaces. A diagram shows an approximate layout of the plant.

TTD: 6-48

Filament and fabric production. Fred W. Manning. USP 2 433 000, Dec. 23, 1947.

A spray gun, having a centrifuge in the muzzle, extrudes filaments of thermoplastic or thermosetting material which may be handled in a suitable solvent or in a molten state. These filaments may be deposited in any desired, nonwoven manner. This patent is a continuation in part of patent nos. 2 336 743, 2 336 744 and 2 336 745.

LCL TTD: 6-48

Glass fiber filters. John A. Grant (to Owens-Corning Fiberglas, Corp.). USP 2 433 271, Dec. 23, 1947.

Glass fibers are formed and collected on a drum in parallel arrangement. Semi-cylindrical molds are filled with the parallel glass fibers, the two mold sections superimposed and placed under pressure to cause the fibers to form a single bundle. The compressed bundle of parallel fibers is ejected from the mold while still under compression and is permanently enclosed in a metal shield.

RJB TTD: 6-48

Glass filter. Glass fiber fabric for filtering purposes. Rein, I. G. Farbenindustrie A. G. Ger. P. 721 537, June 8, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4*, 1006 (Mar. 14, 1947). TTD: 6-48

FIBER TO YARN III

Fiber preparation III 1

Carding. Alabama mill men reveal carding practices. Anon. *Textile World 97,* No. 12, 145, 147, 200, 202 (Dec. 1947).

A report on the discussions of carding practices at the fall meeting of Alabama Textile Operating Executives.
LCL TTD: 6-48

Carding. Theory and function of card. Anon. *Textile Industries 111,* No. 12, 92-5 (Dec. 1947).

A practical mill man reviews the origin, basic operations, objectives, and his theory of carding. The function of each part of the card is explained. TTD: 6-48

Carding. Carding problems discussed by STA. Anon. *Textile World 98,* No. 1, 137, 202, 204 (Jan. 1948).

A report of the fall meeting of the Eastern Carolina Division of the STA on carding practices includes card bearings, top-roll coverings, nylon bolsters, ball bearing top rolls, and mechanical roll pickers. TTD: 6-48

Carding-spinning. Carding-spinning practices described at Alabama meeting. Anon. *Textile Industries 111,* No. 11, 103-4, 106 (Nov. 1947).

A report on an open forum discussion of Alabama mill men on carding and spinning practices. TTD: 6-48

Carding and spinning. Quality-control charts aid carding and spinning. Audree D. Anthony & R. Hobart Souther, Cone Mills. *Textile World 98,* No. 3, 111-13 (Mar. 1948).

A discussion of charts for control of variable limits in spinning and carding production. Application of statistical methods to testing and control improves efficiency.
LCL TTD: 6-48

Comb box. Comb box has only 2 moving parts. Anon. *Textile World 98,* No. 3, 145 (Mar. 1948).

Features of a sealed ball-bearing comb box that is said to use no oil are briefly described. TTD: 6-48

Cut top preparation. Making "cut top" on French comb. Anon. *Textile Industries 111,* No. 12, 80-1 (Dec. 1947).

A short method of preparing cut top, using the French comb, is discussed with details of adjustments of the comb, its operation, and the advantages of this method. TTD: 6-48

Opening. New opening room features better blending.

P. M. Thomas, Textile World. *Textile World 98,* No. 3, 118-19 (Mar. 1948).

Better picker laps are obtained in Pepperell's new opening room by better blending and less heating. Floor layout is shown.
LCL TTD: 6-48

Opening and picking. Cotton opening-picking—here's your chart to quality. Seth Carter. *Textile World 98,* No. 1, 110-11, 206, 208 (Jan. 1948).

Best quality operations are obtained by knowledge of operating and maintenance details of opening and picking equipment. Details of settings, waste control, weight variation, etc. are discussed.
LCL TTD: 6-48

Rayon staple. Cotton system easily adapted to rayon staple. Anon. *Textile World 98,* No. 2, 141, 230, 232, 234, (Feb. 1948).

A discussion of opening, picking, and carding rayon staple on the cotton system. Since rayon staple needs no cleaning, the picker action is modified so as to only open the fibers. TTD: 6-48

Roving frame switch. New roving-frame switch saves operator's time. C. Mallard Bowden, Textile World. *Textile World 98,* No. 2, 124-5 (Feb. 1948).

Pictures show time-saving by installation of conventional start-stop switches on roving-frame.
LCL TTD: 6-48

Card sliver control. John L. King & Noah L. Whitten (½ to King and ½ to C. R. Medley). USP 2 141 003, Dec. 20, 1948.

Thick and thin places in card sliver are eliminated by varying the speed of the doffing cylinder through hydraulic controls. The hydraulic controls are regulated by means of a feeler device which registers the density of the sliver at the calender rolls.
JAW TTD: 6-48

Blends III 2

Cotton blends. Cotton classification plus inventory equals uniform blends. Seth Carter. *Textile World 98,* No. 2, 118-9, 194, 196 (Feb. 1948).

Uniformity of yarns may be improved by the careful classing of cotton and the maintenance of adequate inventories with complete records. Uniform blends may then be maintained through selection of suitable bales.
LCL TTD: 6-48

Cotton-rayon blends. Smyre features cotton-rayon

blends. C. Mallard Bowden. *Textile World 98*, No. 4, 127, 200-1 (Apr. 1948).

Smyre Mfg. Co.'s No. 3 mill (Gastonia, N. C.) has adopted the most modern equipment the best machinery layout to handle cotton-rayon blends. Manufacture of selected blends is described in detail.
LCL TTD: 6-48

Rayon staple blends. Use of rayon staple in woven fabrics in England. R. S. Greenwood. *Rayon Textile Monthly 29*, No. 1, 45-46 (Jan. 1948).

A discussion of 2 types of rayon not as yet made in America, i. e., "Fibro" and "Rayolanda". These materials are used for the production of staple yarns in novelty effects. Dyed "Fibro" is mixed with other fibers to obtain certain shades. "Rayolanda" is a fiber having dyeing characteristics similar to wool and is used most successfully in blends to obtain delicate shading. (For Part I, see TTD: *4*, 159).
HAM TTD: 6-48

Spinning III 3

Ends-breakage. Ends-down tests reveal spinning troubles. F. H. Gunther & Marcus Gross. *Textile World 97*, No. 12, 112-3 (Dec. 1947).

Detailed analyses of ends-down, on an easily used form, aid greatly in improving operations. A test of ends-down is described.
LCL TTD: 6-48

Plied yarn calculation. Nomogram. Anon. *Textile Industries 111*, No. 12, 90-1 (Dec. 1947).

A nomogram for calculating the size of plied yarns from the size of the single yarns is given and explained briefly. Twist contraction in the plied yarn is neglected.
TTD: 6-48

Spinning. Spinning data given by Alabama mill men. Anon. *Textile World 98*, No. 1, 120-1 (Jan. 1948).

A report of the Alabama Textile Operating Executives meeting, featuring spinning practices.
LCL TTD: 6-48

Spinning. New worsted-yarn mill uses long-draft spinning. Anon. *Textile World 98*, No. 3, 120-21 (Mar. 1948).

Successful spinning of worsted yarn is done on modified cotton-type long-draft machinery (at Highland City Mills).
LCL TTD: 6-48

Spinning frame. Worsted frame has rising drafting field. Anon. *Textile World 97*, No. 12, 155-6 (Dec. 1947).

Features of an improved worsted spinning frame include high spindle speeds, larger packages, high draft, etc. TTD: 6-48

Spinning frame. Italian frame spins from sliver. Anon. *Textile Industries 98*, No. 1, 148 (Jan. 1948).

A cotton spinning frame which spins yarns of improved strength and less fuzzy appearance directly from drawn sliver is briefly described and illusrated. TTD: 6-48

Spinning wool. Woolen spinning unit has balanced packages. Fred Smith, Jas. Lee & Sons Co. *Textile World 98*, No. 2, 133, 135 (Feb. 1948).

Parallel balanced units with straight line flow from cards to winders are used to obtain increased efficiency and low labor cost in production of wool carpet yarns (at Jas. Lee & Sons Co.).
LCL TTD: 6-48

Twist requirements. Twist requirements of hand-knitting yarns. Howard Martin. *Textile Mercury & Argus 116*, 555 (Apr. 18, 1947).

Twist requirements depend on the type of spinning system, type of materials, and counts. More twist is required when spinning on the ring system than on flyer frames. For baby wool and bedjacket wool, twist is kept to a minimum, while for sock wools, a firmer twist is needed. A distinctive character can be produced in yarns, such as crepe yarns and boucle yarns, by twisting.
TTD: 6-48

Twister rolls. Twister rolls have chrome-plated finish. Anon. *Textile World 97*, No. 12 160, 162 (Dec. 1947).

A brief note on a new chromium-plated twister-roll assembly. TTD: 6-48

Spindle. Thos. J. Risk. USP 2 433 579, Dec. 30, 1947.

A spinning spindle is described which has a bolster, a portion of the bearing surface of which is spherical. The spherical bearing is designed to improve the operation of the spindle when it is subjected to forces which cause vibration. TTD: 6-48

Spinning ring. Henry B. Stuart (to Whitin Machine Works). USP 2 433 580, Dec. 30, 1947.

A spinning ring is designed which has a curved internal surface upon which a vertical traveller rotates.
TTD: 6-48

Bunch builder mechanism. Ransom R. Gibson. USP 2 433 897, Jan. 6, 1948.

This mechanism limits the distance which the ring rail will raise or lower while building a bunch on filling

quills in spinning frames and regulates the yardage of yarn contained in the bunch.
JAW TTD: 6-48

Yarn catching device. Arthur A. Worth (to Whitin Machine Works). USP 2 435 667, Feb. 10, 1948.

Heavy yarn, caused when adjacent rovings become entangled, is prevented on a spinning frame by means of a double horn located just beyond the normal balloon area but within the balloon area of an oversize yarn. Overweight yarn causes greater ballooning in the yarn being spun and so is caught and broken by the horn.
JAW TTD: 6-48

Self lubricating spinning ring. Harvey E. Herr (to Herr Mfg. Co., Inc.). USP 2 435 939, Feb. 10, 1948.

Travelers are lubricated as they rotate around a spinning ring with an annular groove which forms a receiving chamber for the lubricant.
JAW TTD: 6-48

Winding III 4

Cloth winder. Pneumatic cut-off winder. Anon. *Textile Industries 111,* No. 12, 159 (Dec. 1947).

An improved cloth winder by H. W. Butterworth & Sons Co. is equipped with a pneumatic cut-off and an automatic slitter. The winder is encased in a streamlined steel cover that protects both the working parts and the workers. TTD: 6-48

Winding. Tension and density control in winding. Anon. *Textile Mercury & Argus 116,* 548, 551, 553 (Apr. 18, 1947).

The Kidde tension and control device is especially useful for all threads with stretch, such as nylon and rubber, for wool that is to be knitted, and for yarns to be package-dyed. A description of the Kidde device and its operation is given with illustrations. TTD: 6-48

Winding. Apparatus designed to wind up textile and paper courses, keeping winding speed constant. Streng, Siemens-Schuckertwerke A. G. Ger. P. 718 682, Mar. 19, 1942. 5 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Yarn processing III 5

Drying. Cake drying speeded by high-frequency current. T. H. Story, Radio Corp. of Am. *Textile World 98,* No. 1, 114-5, 208, 210, 212, 214 (Jan. 1948).

Whenever there exists a mass of sufficient size to absorb H-F radiation, drying by this means is applicable and frequently advantageous. Rayon cake drying time is reduced from days to 1 hour. The quality is improved:

mean shrinkage variation is below 0.4%. Although drying costs may be as high as 6 times that of steam, other advantages often justify its use.
LCL TTD: 6-48

Vacuum drying. Pieter H. van Scherpenzeel (to Am. Enka Corp.). USP 2 432 952, Dec. 16, 1947.

A gear drive is utilized to rotate tubes containing rayon yarn packages which are dried in a high vacuum chamber. The partial rotation of the tubes of packages near the shell of the chamber was found desirable to prevent uneven drying of these packages caused by radiation from the shell of the vacuum chamber.
RF TTD: 6-48

Cutting threads. Apparatus for mechanical cutting up of loose warp threads. von Rüti. Ger. P. 715 927, Jan. 9, 1942. 8pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Drying threads. Process and apparatus for drying of moving textile threads. W. Schlafhorst & Co. Ger. P. 726 075, Oct. 6, 1942. 5 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Yarn products III 6

Lurex. Silver threads among the gold. Anon. *Textile Colorist 69,* No. 12, 31 (Dec. 1947).

Aluminum foil, pressed between 2 layers of transparent plastic film and held with a special adhesive to which gold or copper color has been added, can be cut into strips to produce threads suitable for weaving. This thread, *Lurex,* is impervious to tarnish and light weight and may be used in wearing apparel and home decoration. TTD: 6-48

Tire cord. Practical problems in the manufacture and service of tires built with continuous filament cord. J. H. Dillon, Textile Research Inst. *Am. Dyestuff Reptr. 36,* No. 14, P385-390 (July 14, 1947).

The characteristics of various continuous cord materials, viscose, rayon, nylon, glass fiber, and steel are compared, and the manufacturing conditions (dipping and drying, storage, tire building, tire curing, etc.), tire service conditions, and the required properties in a tire cord (high-temperature strength, flexibility, fatigue life, hysteresis behavior, creep, etc.) are discussed.
WPU, jr. TTD: 6-48

Yarn applications III 7

YARN TO FABRIC IV

Yarn preparation IV 1

Rayon warping. Cotton system excellent for warping

Bemberg. John Gassman, Bruck Silk Mills. *Textile World 98,* No. 2, 116-17 (Feb. 1948).

Warping and rebeaming of Bemberg (the trade name for cuprammonium rayon made by Am. Bemberg Corp.) are successfully accomplished on the cotton system. Detailed instructions are given for various operations.
LCL TTD: 6-48

Warp size. Du Pont announces raw-nylon-warp size. Anon. *Textile World 98,* No. 2, 160 (Feb. 1948).

Excellent weaving qualities can be obtained on raw-nylon continuous filament warps by the use of polymethacrylic acid in sizing. TTD: 6-48

Warp size. Data offered on raw-nylon warp size. Anon. *Textile World 98,* No. 4, 129, 196-98, 200 (Apr. 1948).

This is an abstract from a technical service bulletin of Du Pont. Improved adhesion of size to filament nylon is claimed for PMA (polymethacrylic acid) and best results are obtained on raw nylon. Plasticizers, such as glycerine or ethylene glycol, are needed. PMA is readily soluble in water. The size pick-up ranges from 3.5-7% dry size based on the dry weight of the yarn.
LCL TTD: 6-48

RAYON WARP PREPARATION AND QUILLING. Anon. Internatl. Textbook Co., Scranton, Pa.; 238 pp.; price: $2.90.

Reviewed in *Textile World 98,* No. 3, 248 (Mar. 1948).
TTD: 6-48

Weaving IV 2

Calculating aids. Calculating aids devised by Viscose. Anon. *Textile Industries 111,* No. 11, 151 (Nov. 1947).

A device for calculating warp and filling yarn requirements in different deniers, a fabric weight conversion table, a denier conversion table, and a spinning twist calculator are described. TTD: 6-48

Rayon fabric defects. Defects in rayon fabrics. Rene Bouvet, Am. Viscose Corp. *Textile Industries 111,* No. 12, 78-9 (Dec. 1947).

Defects in rayon fabrics and their causes from preliminary and weaving operations are presented in condensed form. TTD: 6-48

Warp twisting-in. Hand twisting-in of warps. H. E. Wenrich. *Rayon Textile Monthly 29,* No. 1, 55-57 (Jan. 1948).

Hand-twist set-ups and how to speed up hand twisting

is described. Illustrations for forming the twist and suggestive helps for the twister are given.
ASJ TTD: 6-48

Warp-tying machine. Swiss portable warp-tying machine. Anon. *Textile Industries 111,* No. 12, 143 (Dec. 1947).

A portable automatic warp-tying machine made by Zellweger Ltd. is adaptable to any make of loom and to coarse and fine threads. The machine operates at a speed between 200 and 300 knots per minute.
TTD: 6-48

Weaving operations. Georgia mill reports on 48-in. loom beam. Anon. *Textile World 97,* No. 12, 135, 137, 207-8, 210, 212, 214, 216, 218, 220, 222 (Dec. 1947).

Report of fall Georgia mill conference in Atlanta highlights a 48 in. filled diameter loom beam at Pepperell's Lindale mill. Details are given of other developments.
LCL TTD: 6-48

Weaving rayon. Careful loom adjustment aids rayon weaving. Anon. *Textile World 97,* No. 12, 114-15, 202, 204, 207 (Dec. 1947).

More care and a better understanding of filament rayon are necessary for good weaving. Filling defects, picking motions, reeds, harnesses, let-off motions, and humidity are discussed in relation to rayon weaving.
TTD: 6-48

Weaving and slashing. Slashing, weaving men hear new phases of old problems. Anon. *Textile World 98,* No. 1, 127, 129, 196, 198 (Jan. 1948).

A report of the fall meeting of the Eastern Carolina Division of the Southern Textile Association features slashing and weaving, including size roll covering, waste, storage, and wet-yarn slashing.
LCL TTD: 6-48

Weaving. Textile-laying apparatus with built-in measuring drum. Joseph Monforts. Ger P. 719 341, Apr. 4, 1942. 7 pp. *Bibl. Sci. Ind. Reports 4,* 1114 (Mar. 21, 1947). TTD: 6-48

Weaving. Textile-laying apparatus with built-in measuring drum. Joseph Monforts. Ger. P. 721 065, May 23, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1114 (Mar. 21, 1947).

Addition to Patent 719 341. TTD: 6-48

RAYON YARN CALCULATIONS. Anon. Internatl. Textbook Co., Scranton, Pa.; 140 pp.; price $1.45.

Reviewed in *Textile World 98,* No. 3, 248 (Mar. 1948).
TTD: 6-48

Looms IV 2 a

Automatic looms. Case for automatic loom. H. de G. Gaudin. Brit. Northrop Loom Co., Ltd. *Textile Mercury & Argus 116,* 439, 454-5, 476, 478, 481, 511, 513, 515 (Mar. 28; Apr. 4, Apr. 11, 1947).

Automatic looms save labor, increase production and earning capacities, give controlled production and better working conditions. The automatic loom is extremely flexible and adaptable. The Northrop automatic loom, an automatic bobbin-changing loom, is a precision made machine; features of which include a weft replenishing motion, uniform tension control, stationary magazines, etc. TTD: 6-48

Box looms. Jerked-in filling prevented on box looms. Osbert Hughes. *Textile Industries 111,* No. 11, 135 (Nov. 1947).

An illustrated description of a device for drop-box looms which will prevent the filling from idle shuttles being jerked-in by the running shuttle in weaving multiple color patterns. TTD: 6-48

Loom fixing. Manual guides Draper loom fixing. Anon. *Textile World 98,* No. 2, 120-1 (Feb. 1948).

Causes of cloth defects and seconds are outlined in an easy-to-read form. This form is taken from a manual of "Suggestions to Loom Fixers for Model XD Draper Looms," distributed by a Southern mill. TTD: 6-48

Loom picker. New leather picker has steel shell. Anon. *Textile World 98,* No. 3, 145 (Mar. 1948).

A brief note on a new high-speed loom picker which is claimed to give prolonged life, improved shock absorption and life-long alignment to the picker stick. TTD: 6-48

Shuttleless loom. Webbing loom weaves without shuttle. Anon. *Textile Bull. 72,* No. 12, 28 (Aug. 15, 1947).

Clutsom Machines, Inc. is distributing in this country a loom invented by Chas. Clutsom of Coalville, Leicester, England. It is a high-speed, narrow fabric loom. TTD: 6-48

Shuttles. Shuttle with increased bobbin capacity. Anon. *Textile Industries 111,* No. 11, 147 (Nov. 1947).

A brief note on the LFP type shuttle of the Steel Heddle Mfg. Co. which permits the use of bobbins with increased capacity. TTD: 6-48

Loom picker. Samuel W. La Rocque (to The La Rocque Mfg. Co., Inc.). USP 2 432 995, Dec. 23, 1947.

To lengthen the life of a picker in the loom and to fit it to the stick more accurately, ensuring longer life to picker stick, a frame of magnesium or magesium alloy is made to surround the picker. A bearing plate extends above and below the picker to give additional strength to the stick.
JAW TTD: 6-48

Circular weaving. Victor M. J. Ancet (to Marius Fayolle alias Marcel Fayolle). USP 2 433 190, Dec. 23, 1947.

The position of loom beams has been changed so as to unwind the yarn vertically for circular weaving machines.
JAW TTD: 6-48

RAYON LOOMS AND WEAVING. Anon. Internatl. Textbook Co., Scranton, Pa.; 304 pp.; price: $3.45.

Reviewed in *Textile World 98,* No. 3, 248 (Mar. 1948). TTD: 6-48

Control devices IV 2 b

Check straps. Endless check straps. Anon. *Textile Industries 111,* No. 11, 147 (Nov. 1947).

Duxbak check straps, of pre-stretched oak belting leather and reinforced at both ends with the same leather, are mounted on Draper looms by 3-fingered friction brackets. TTD: 6-48

Whip roll mechanism. Norman H. Fox (to Goodall-Sanford, Inc.). USP 2 433 039, Dec. 23, 1947.

The movement of the whip roll is controlled more accurately during its complete cycle, and proper tension on the warp is maintained by means of a pendulum arm to which are attached weights or opposing strings.
JAW TTD: 6-48

Selvedge tension control. Raymond Dewas. USP 2 433 101, Dec. 23, 1947.

Selvedge ends are stretched before they are woven in order to equalize the tension on selvedge and on the yarn of the warp. The selvedge yarn is stretched as it passes through holes in the sides of a weighted container.
JAW TTD: 6-48

Weft stop motion. Henri Pelcé (to Societe dite: Saint Freres S. A.). USP 2 433 479, Dec. 30, 1947.

Broken picks and thin places in circularly woven fabrics are prevented by attaching to the shuttle a neon lamp which activates a photo-electric cell. As long as the filling thread is being unwound correctly the circuit

remains open, but, when the filling breaks, the circuit closes and stops the loom.
JAW TTD: 6-48

Hydraulic check. Otto A. Kottemann (to Wm. D. Dodenhoff). USP 2 433 764, Dec. 30, 1947.

The oscillatory movement of a loom picker stick at the ends of its inner and outer strokes is controlled by a hydraulic check.
JAW TTD: 6-48

Control device. Device for measuring length of textile courses etc., equipped with length indicator and recording apparatus. Joseph Monforts. Ger. P. 720 009, Mar. 1, 1938. *Bibl. Sci. Ind. Reports 4,* 1026 (Mar. 14, 1947). 3 pp. TTD: 6-48

Fabric construction IV 2 c

Knitting IV 3

Knitting nylon yarn. 10- and 15-denier nylon intensifies knitting problems. H. B. LeFeaux, Textile World. *Textile World 98,* No. 1, 123, 191-2, 194 (Jan. 1948).

Knitting of the new 10- and 15-denier nylon monofilament yarn presents many problems. These have not yet been satisfactorily solved.
LCL TTD: 6-48

Knitting machines IV 3 a

Knitting machine. Circular knitter has 96 feeds. Anon. *Textile World 98,* No. 1, 141 (Jan. 1948).

A brief illustrated description of a circular knitting machine which is used to produce wide-striped jersey.
TTD: 6-48

Pattern drums. Knitted fabric has great facility for fancy patterns. C. R. Carter. *Textile World 97,* No. 12, 132-3 (Dec. 1947).

Developments in design and stitch formation for knitted fabrics place them in position to compete with fancy woven goods. Jacquard pattern drums control the design, and are easily replaced.
LCL TTD: 6-48

Control devices IV 3 b

Knitting controls. New devices aid seamless knitting. Anon. *Textile World 98,* No. 3, 139, 215-16 (Mar. 1948).

Illustrated descriptions of a new stop motion and an oiling device for lubricating and cleaning needles and sinkers for hosiery knitting machines. TTD: 6-48

Fabric construction IV 3 c

Construction charts. Construction charts provide helpful records. Anon. *Textile Industries 111,* No. 11, 188-90, 194 (Nov. 1947).

Graphical charts, showing all the necessary details of construction for reproducing any style of hosiery, are of great value to hosiery manufacturers. Three charts with a brief explanation of one of them are given.
TTD: 6-48

Hosiery construction. Voluntary standards set for full-fashioned hosiery. W. Chase Idol, Jr. *Textile World 98,* No. 3, 124-5, 127, 238, 242, 244, 246 (Mar. 1948).

The Independent Association of Stocking Manufacturers has voluntarily established minimum standards of construction for full-fashioned hosiery. Tables of construction are given.
LCL TTD: 6-48

Warp knitted fabric. Thos. H. Johnson (to Am. Viscose Corp.). USP 2 433 279, Dec. 23, 1947.

Different designs and methods are used to make fabrics with no basic change in machine design.
JAW TTD: 6-48

Hosiery. Procedure for making stockings cut from warp-knit goods. Ernst Saupe. Ger. P. 723 409, Aug. 5, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947).

Drawing included. TTD: 6-48

Special fabrics IV 4

Braid. Braiding in relation to textiles. G. Wightman, B. & F. Carter & Co., Ltd. *Textile Mercury & Argus 116,* 948-9, 955 (July 4, 1947).

The different kinds of braiding machines and the use of braids in textile manufacturing processes are reviewed.
TTD: 6-48

Web fabrics. Web fabrics and cotton. Maurice A. Goldman, Fibre Products Laboratories, Inc. *Papers Am. Assn. Textile Technologists 3,* 18-28 (Dec. 1947); *Textile Bull. 73,* No. 5, 14, 16, 18 (Nov. 1, 1947).

Cotton web fabrics consist of 3 types: those produced from carding machinery either laminated in the longitudinal direction or cross laminated, those produced from drawing machinery and cross laminated, and those produced from combing machinery and cross laminated. The production and uses of these 3 types of web fabrics are discussed. TTD: 6-48

Ladder webbing. Geo. F. French (to Roger French). USP Re 22 959, Jan. 6, 1948.

The webbing for Venetian blinds may be woven on dobby looms with different colored yarns for the cross-straps without having the colors show on the outer surfaces of the webbing.

JAW TTD: 6-48

Electro conductive fabric. Lawrence J. Rasero (to The Russell Mfg. Co.). USP 2 433 239, Dec. 23, 1947.

A fabric, which is intended for use as an electrically heated cloth, or as electrical shielding, but is not necessarily conductive on the surface, is produced by interweaving an electroconductive weft-strand with the usual textile warp-strands. The conducting lead may be brought out in loops at regular intervals to provide separated conducting regions.

ECH TTD: 6-48

Fabric processing IV 5

Continuous cloth scouring. A method of recording the strength of scouring solution in continuous cloth scouring. Ralph E. Hale, The Bell Co. *Am. Dyestuff Reptr. 36,* No. 13, P362-64 (June 13, 1947).

The strength of the scouring solution is shown to bear a definite logarithmic relationship to the conductivity. A continuous conductivity recorder is used to control the solution strength in factory operation.

WPU, jr. TTD: 6-48

Drier. Modern vertical drying machine. Anon. *Textile Mercury & Argus 116,* 733-4 (May 23, 1947).

The Spooner vertical drying machine is fitted with removable gauze filters and is capable of treating cloth which sheds a large amount of flock without shutdown.

TTD: 6-48

Felting. Gyratory method. Felting process. I. G. Farbenindustrie A. G. PB 44087, Sept. 1935. 130 pp. *Bibl. Sci. Ind. Reports 4,* 944 (Mar. 14, 1947). Price: $3.00 (Microfilm); $9.00 (Photostat).

This folder contains the following documents, in the order mentioned: (1) German patent 618 640, of 1935; (2) Correspondence with a felt manufacturer, regarding experiments using the gyratory method described for dyeing; the results so far were negative; numerous diagrams illustrate the apparatus used and its improvements; (3) Correspondence, dealing with a British patent application by I. G., in English; (4) Draft of German patent application, dated Aug. 6, 1937; (5) German patent 623 143, of 1936; (6) Another draft of

German application, dated April 28, 1937, on its first page is pencilled: "German Patent 659 412"; the draft contains several diagrams; (7) Another English draft for British application, also with diagrams; (8) Draft of a reply to the German examiner who had rejected the application as partly not new and partly not workable; (9) Rejection just mentioned; (10) Another application draft, dated May 31, 1935, with diagram.

TTD: 6-48

Heating. Many uses seen for high-frequency heat. T. H. Story, Radio Corp. of Am. *Textile World 98,* No. 3, 122-3, 208, 210, 212, 215 (Mar. 1948).

A review of the use of high-frequency heat for twist setting rayon. Claims are made for advantages in other textile operations.

LCL TTD: 6-48

Infra-red drying. Infra-red heat applications in drying for slashers and finishing. Theodore T. Howe. *Textile Forum 4,* No. 3, 9, 25-6 (Fall, 1947).

Although infra-red rays themselves are not hot, great heat is produced when they are used to bombard fabrics due to the absorption of radiation by the fibers. Infra-red drying is more efficient, more economical, and faster than the use of steam heating or gas-flame units which were formerly used. TTD: 6-48

Napping flannel. Minimum runs desired in napping flannel. E. D. White. *Textile World 97,* No. 12, 131, 243-4 (Dec. 1947).

Dundee Mills are producing top-quality flannel with minimum number of napper runs. Close control of raw cotton selection, gray goods preparation, and napper adjustments are considered essential. Some operating details are discussed.

LCL TTD: 6-48

Processing machinery. Cook - P. & N developments. Anon. *Textile Industries 111,* No. 12, 149, 151 (Dec. 1947).

Illustrated descriptions of a stainless steel slack washer and a scutcher for all types of fabrics are briefly given.

TTD: 6-48

Sealing plastic sheets. Electronic heat sealing in practice. Arnold Rubin, Benjamin Goodman, Inc. *Plastics 6,* No. 4, 30-1 (Apr. 1947).

Electronic heating is being used to seal plastics, films, and sheets in making pillow covers, shower curtains, tablecloths, etc. The bar-type sealer is the simplest and the one most commonly used in electronic heating; it is distinguished by bar-shaped electrodes or dies.

TTD: 6-48

Slack drier. Shrinkage takes place in slack drier. Anon. *Textile World 98,* No. 2, 149 (Feb. 1948).

An illustrated description of a slack drier that will shrink dyed goods in both the warp and filling directions. TTD: 6-48

Slack washer. Slack washer has full-width doors. Anon. *Textile World 98,* No. 2, 156 (Feb. 1948).

A stainless steel, tight-strand washer, capable of handling all weights of fabrics, is briefly described and illustrated. TTD: 6-48

Tenter chain. Tenter chain. Anon. *Textile Industries 111,* No. 12, 144, 147 (Dec. 1947).

A tenter chain of hardened steel, manufactured by H. W. Butterworth & Sons Co., is described and illustrated. The elimination of extreme vibration at high speeds is claimed. TTD: 6-48

Wool scouring. (Natl. Aniline Division, Allied Chemical & Dye Corp.). Wool piece goods scouring with a synthetic organic detergent; Scouring wool raw stock with a synthetic organic detergent, O. M. Morgan. *Am. Dyestuff Reptr. 37,* 93-5, 96-9 (Feb. 9, 1948).

Experiments are described which show the value of Nacconol NR (an alkylarylsulfonate detergent) for removing emulsified mineral oil lubricants from wool piece goods and grease from wool raw stock. Details are given for use in full scale scouring tests.
WPU, jr. TTD: 6-48

Scouring cellulosic materials. Hans O. Kauffmann, Robt. L. McEwen, Edw. S. Shanley & John R. Hopkins (to Buffalo Electro-Chemical Co., Inc.). USP 2 433 370, Dec. 30, 1947.

Cloth made from vegetable fibers is made absorbent in preparation for bleaching. Gray goods are padded with alkali, generally sodium hydroxide, in concentrations from 4-60 g./l. NaOH, so that the cloth contains 50-200% of the solution, based on dry weight of goods. The cloth is then steeped from 4-20 hrs. (at room temperature or above) depending on the type of goods. The softened motes and waxy materials are removed by steaming from 30 sec. to 30 min. under conditions where substantial evaporation of moisture is prevented. After washing with water, the fabrics are ready for bleaching.
CCJ TTD: 6-48

Dry cleaning. Process and appliance for operation of machines for dry cleaning of fibrous materials and textile fabrics of any kind, using a volatile organic solvent. Heinrich & Höllerer, Alexander Wacker,

Gesellschaft für Elektrochemische Industrie G. M. B. H. Ger. P. 699 706. *Bible. Sci. Ind. Reports 4,* 1027 (Mar. 14, 1947). 4 pp.

The material being treated is separated from the solvent by a stream of gas; this patent is concerned with the disintegration and washing of the gas on removal from the machine. TTD: 6-48

Drier. Flat drying appliance for textile fabrics. Friedrich Haas, Maschinenfabrik K. G. Ger. P. 709 892, Aug. 29, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 1114 (Mar. 21, 1947). TTD: 6-48

Treating hosiery. Form finishing and shaping textiles, particularly hosiery. Hermann Schwabe. Ger. P. 711 407, Oct. 1, 1941. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Shearing machine. Device for automatic regulation of thread tension in shearing machines. Schlick (Alois) Textil-Maschinenfabrik. Ger. P. 711 468, Oct. 1, 1941. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947).

Drawing included. TTD: 6-48

Treating textiles. Apparatus for treating textiles, especially stockings, stretched over forms. Hermann Schwabe. Ger. P. 713 625, Nov. 12, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Crimping fabrics. Process for crinkling of woven or knitted materials. Sapper, Greiff-Werke. Ger. P. 715 135, Dec. 15, 1941. 4 pp. *Bibl. Sci. Ind. Reports 4,* 1114 (Mar. 21, 1947). TTD: 6-48

Crimping fabrics. Apparatus for crinkling of woven or knitted materials. Sapper, Greiff-Werke. Ger. P. 716 515, Jan. 22, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 1114 (Mar. 21, 1947). 2 pp.

Addition to Patent 715 135. TTD: 6-48

Tearing apparatus. Apparatus for longitudinal tearing of textile courses. Helle, "Semperit" Österreichisch-Amerikanische Gummiwerke A. G. Ger. P. 716 806, Jan. 29, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Stretching apparatus. Appliance for producing a correct breadth of final products in textile stretching apparatus. Philippi Siemens-Schuckertwerke A. G. Ger. P. 717 020, Feb. 4, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). TTD: 6-48

Wet treatment. Process and apparatus for wet treatment of wide-moving textile courses arranged in travelling pile. Joseph Monforts. Ger. P. 720 640, May 11, 1942. 4 pp. *Bibl. Sci. Ind. Reports 4*, 1115 (Mar. 21, 1947). TTD: 6-48

Wet treatment. Process and apparatus for unweighted conveyance of textile courses during wet treatment. Vereinigte Färbereien & Appretur A. G. Ger. P. 720 968, May 22, 1942. 5 pp. *Bibl. Sci. Ind. Reports 4*, 1115 (Mar. 21, 1947). TTD: 6-48

Conveyor band. Conveyor band which aids in crinkling of textile courses. Hugo Jaeger. Ger. P. 722 703, July 17, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4*, 1114 (Mar. 21, 1947). TTD: 6-48

Washing. Process for washing and cleaning. Siefert, I. G. Farbenindustrie A. G. Ger. P. 725 820, Sept. 30, 1942. *Bibl. Sci. Ind. Reports 4*, 1007 (Mar. 14, 1947). 2 pp.

The claim is made for the use, along with washing agents of an organic nature, excluding soaps, of soluble salts of metaphosphoric acid. TTD: 6-48

Fabric applications . IV 6

Gas impervious fabric. Oscar W. Loudenslager & Jos. E. Wilson (Wingfoot Corp.). USP 2 431 056, Nov. 18, 1947.

A laminated fabric, resistant to the transmission of hydrogen and helium, useful as gas-retaining fabric for balloons and other lighter-than-air craft, is prepared by cementing a continuous sheet of a copolymer of vinylidene chloride and a vinyl ester to a woven fabric of linear polyamide resin fibers by means of an adhesive comprising a polymer containing vinyl chloride as the principal component.
WPU, jr. TTD: 6-48

Nylon core yarn fabric. Eric E. Weiss (to United Merchants & Mfrs. Inc.). USP 2 433 722, Dec. 30, 1947.

A process of manufacturing piece goods wherein a composite yarn is produced by spinning a wrapper yarn of synthetic or natural staple fiber around a continuous filament core yarn of nylon or similar thermoplastic material, weaving the yarns into fabric, and treating the fabric with saturated steam under pressure to shrink the wrapper portion onto the thermoplastic core and heat set the core. A fabric having greater strength and improved dimensional stability with no sacrifice of hand or appearance is claimed.
VBS TTD: 6-48

Felt fabric. Outer covering for tennis balls, etc. consisting of 2-sided felt fabric. Elben & Droege, Tuchfabrik Lörrach A.G. Ger. P. 708 028, Nov. 11, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4*, 1115 (Mar. 21, 1947). TTD: 6-48

Textile material. Material for chemically stiffened laundry or clothing. Süddeutscher Spinnweber-Verband GmbH. Ger. P. 710 660, Sept. 18, 1941. 3 pp. *Bibl. Sci. Ind. Reports 4*, 1115 (Mar. 21, 1947).

Drawing included. TTD: 6-48

CHEMICAL RAW MATERIALS V

Detergents. Synthetic detergents in textile processing. H. C. Borghetty, Gen. Dyestuff Corp. *Am. Dyestuff Reptr. 37*, No. 4, 112-3, 130 (Feb. 23, 1948).

This is an elementary review of the nature of soap and of synthetic detergents, and of their use in textile processing, followed by a somewhat more detailed review of the structure and application of the ethylene oxide condensate type of non-ionic detergents.
WPU, jr. TTD: 6-48

Glycerol. Newer uses of glycerine. M. A. Lesser & Joyce Cotter. *Rayon Textile Monthly 29*, 83-5 (Jan. 1945).

The uses of glycerol in sizing, printing pastes, dyeing, special finishing treatments, and shrinkproofing are shown. Glycerol is also used in providing a non-felting finish for woolens, in spinning protein fibers and viscose rayon, in the production of the new acrylonitrile polymer filaments, and in the synthesis of alkyd resins.
TTD: 6-48

Textile chemicals. Four new agents announced by General (Dyestuff Corp.). Anon. *Textile World 98*, No. 2, 158, 160 (Feb. 1948).

A non-slip finish, a softening agent with dye-fixing properties, a cationic softening agent, and a synthetic surface-active agent are briefly noted. TTD: 6-48

Wool oil. Wool oil reported with many desirable qualities. Anon. *Textile World 98*, No. 2, 160 (Feb. 1948).

A self-emulsifiable wool oil, Proxol, has good spreading qualities and anti-static properties. Less stripping of the card wire and less fiber breakage will result from use of this oil. TTD: 6-48

Plastics and elastomers V 1

Geon. Geon paste resin aids vinyl processing. M. N. Burleson, B. F. Goodrich Co. *Plastics 7*, No. 2, 18, 21, 24-5 (Aug. 1947).

A review of the characteristics, properties, etc. of Geon.

This paste resin may be used for films, coatings, moldings, and the like. TTD: 6-48

Plastics films. Properties of various plastics films. Wm. H. Aiken, Goodyear Tire & Rubber Co. *Plastics 7,* No. 2, 34-6, 58 (Aug. 1947).

Properties and uses of plastics films of cellulose nitrate, cellulose acetate, ethyl cellulose, pliofilm, nylon, polyvinyl alcohol, polyvinyl choride, polyethylene, polystyrene, polyvinyl butyral, polyvinyl carbazole, polytetrafluorethylene, polyvinyl chloride, and vinyl chloride copolymers discussed. TTD: 6-48

Plastics screen. Plastics screening goes to work. Jos. F. Rohs, Chicopee Mfg. Corp. *Plastics 6,* No. 4, 54, 57-8, 60-1 (Apr. 1947).

Lumite screen is woven (by Chicopee) from extruded filaments of Saran vinylidene chloride. This plastics screen is now used for automobile seat covers, handbags, sport caps, shoes, and windows for poultry houses. *Vimlite* consists of *Lumite* mesh coated with cellulose acetate and is used for window shades, table place mats, awnings, and in place of glass in windows and for protective shields. TTD: 6-48

Resins. Textile resins. W. H. Jaeger, Am. Cyanamid Co. *Am. Dyestuff Reptr. 36,* No. 13, P 352-54 (June 30, 1947).

A review is made of some resins currently used to impregnate textile fabric. The processes of application and the fields of usefulness for melamine and urea-formaldehyde, methylated melamine, vinyl chloride-acetate, and styrene-acrylate resins are mentioned. Felting and shrinkproofing, wash resistance, creaseproofing, slippage control, resin bonding of pigments, and felting control in wool goods are discussed.
WPU, jr. TTD: 6-48

Textile chemicals. Dyeing, even coloring and plasticizing agents for textile and leather industry. Hentrich & others. I. G. Farbenindustrie A. G. Ger. P. 722 281, July 7, 1942. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1006 (Mar. 14, 1947).

Amines which are insoluble in water, or dissolve with difficulty, are used; also used are ammonia bases derived from amines which are substituted on the nitrogen by at least a higher molecular weight aliphatic hydrocarbon group. TTD: 6-48

Surface-active compounds V 2

Detergents. Minutes of Textile Aids Commission meetings between April 1930-October 1943. Joint Intelligence Objectives Agency. PB L 55000, n. d. *Bibl. Sci. Ind. Reports 4,* 1129 (Mar. 28, 1947). Price: $1.00 (Microfilm or Photostat).

This index lists German and English titles of the reports contained in PB 17663 (see PB L 17663) together with their numbers and frame numbers as they appear on the microfilm reel. TTD: 6-48

Surface active agents. Nopco products. Anon. *Textile Industries 111,* No. 12, 143-4 (Dec. 1947).

Products of the Nopco Chemical Company, a series of non-ionic, emulsifying surface active agents, and a series of cationic surface active chemicals, are used to improve the appearance of fabrics and also as wetting, dispersing and softening agents. TTD: 6-48

Textile chemicals. Minutes and yearly reports of Textile Aids Commission (T.H.K.). 1930-43. I. G. Farbenindustrie A. G. PB L 17663, May 1930-Oct. 1943. 940 pp. *Bibl. Sci. Ind. Reports 4,* 1129 (Mar. 28, 1947). Price: $6.00 (Microfilm); $94.00 (Photostat).

The major portion of this reel consists of minutes of the meetings of the T.H.K.; those for the 36th meeting are not with this material, while those for the 14th and 52nd meetings are omitted from the enlargement prints, as listed below, because they are illegible. The meetings were held between April 1930 and October 1943 and cover the general fields of textile aids, detergents, wetting agents, and agents for the finishing, sizing and waterproofing of textiles. There are included notes on patents and patent applications, on costs of production of the various products, and on contracts with other organizations. The minutes are somewhat sketchy in nature and are not too informative. Only one report presented at these meetings has been reproduced on the reel and it has not been reproduced in its entirety in enlargement print form because the latter portion is illegible; this report is by Nüssleiu and is available as PB 1995. Three of the meetings appear to have been regarded as special in that they were attended by an expanded membership or in that they were on a special subject such as leather dressings, these 3 special meetings are available in enlargement print form as PB 55062-4. The last 3 documents on the reel contain abstracts of papers exchanged at the meetings of the "Scientific Textile Aids Commission" (Wiss. T.H.K.). These are more scientific nature than the minutes of the meetings presented in the rest of the reel; however, the abstracts are relatively brief. The 5 remaining documents on the reel consist of annual reports of the T.H.K. for the years 1936 through 1940. Those for the years 1937, 1939 and 1940 are especially of interest in that each contains a table of products announced in that particular year, including trade names of the products as offered for sale. TTD: 6-48

CHEMICAL PROCESSING VI

Bonding machine. From bale to bolt in 90 seconds. Anon. *Textile Industries 111,* No. 12, 77 (Dec. 1947).

A brief illustrated note on a machine that converts cotton and rayon, bonded by synthetic resins, into the nonwoven web fabric, Plastavon. TTD: 6-48

Coated fabric. Polyvinyl butyral protects fabrics. David S. Plumb, Monsanto Chemical Co. *Plastics 6,* No. 1, 80-1, 94 (Jan. 1947).

Fabrics treated with polyvinyl butyral offer resistance to soiling, staining, and abrasion; have longer wear; increased color fastness; and will withstand repeated launderings. Application of the resin is only made on one side of the fabric and usually by a spread coating machine. TTD: 6-48

Crush resistant finish. Resistance to crushing. Anon. *Textile Bull. 71,* No. 12, 38, 40 (Feb. 15, 1947).

A crush-resistant finish can be imparted to fabrics by impregnating them with aqueous solutions of suitable carbamide-formaldehyde condensates, drying, and heat-treating to insolubilize the material. TTD: 6-48

Enzymes in processing. P. J. Wood. *Am. Dyestuff Reptr. 36,* No. 13, P 35561 (June 30, 1947).

This is an outline of bacterial, plant, and animal enzymes used in textile processing. Specific mention is made of the fact that there is no record of any damage to the fiber traceable to the use of any desizing agent. A useful table of optima temperatures and pH's for various enzyme types is given. Methods for the evaluation of enzymes are discussed.
EA TTD: 6-48

Finishes. Finishes. Anon. *Textile Colorist 69,* No. 4, 32, 43 (Apr. 1947).

A series of questions and answers on Bradura and Sanforset, two recently developed finishes. TTD: 6-48

Finishes. Finishes. Anon. *Textile Colorist 69,* No. 5, 35 (May, 1947).

A flame-resistant, waterproofing, and mildewproofing finish, perma-proof 200, which is applicable to curtains, drapes, carpets, display materials or any other indoor use is discussed. Perma-proof 100 is applicable to awnings and other fabrics used outdoors. TTD: 6-48

Finishing. Combined skills produce quality knit-goods finishing. Earl S. Dunlap, Chief Chemist, Alamac Knitting Mills, Inc. *Textile World 98,* No. 4, 108-9 (Apr. 1948).

When a variety of fibers and filaments are used, frequent laboratory checks on bleach control and dye formulas, combined with adequate inspection maintain quality.
LCL TTD: 6-48

Finishing. Fabric finishes for future. Arthur E. Ethchells, Hellwig Dyeing Corp. *Textile Colorist 69,* No. 6, 18-19, 57 (June, 1947).

Gas fading, creaseproofing, fireproofing, mildewproofing, softeners and new products for scouring, dyeing and finishing are discussed. TTD: 6-48

Finishing. Progress and prosperity keynote knit-goods finishing. Wm. A. Newell. *Textile World 98,* No. 4, 103-4 (Apr. 1948).

A brief summary of the status of knit-goods finishing indicates progress toward continuous processing, shrinkage control, improved washing and drying. Problems are caused by dye shortages, nylon dyeing, and waste disposal.
LCL TTD: 6-48

Finishing. Latest trends in textile finishing. Marcell Pagerie, Allied Textile Printers, Inc. *Textile Colorist 69,* No. 7, 30-1 (July, 1947).

The use of thermo-setting and thermo-plastic resins in fabric finishing processes are reviewed. TTD: 6-48

Finishing cotton. Chemical finishes for cotton yarn and hosiery. Margaret S. Furry, U. S. Dept. of Agri. *Rayon Textile Monthly 29,* No. 1, 58-60, No. 2, 67-70, No. 3, 65-6 (Jan.-Mar. 1948).

In this study, various chemical finishes were applied experimentally to 40/1 combed Peeler cotton yarn and the treated yarns examined for their appearance, weight, breaking strength, elongation, and knittability. Particular improvement in these properties was noticed in yarn treated with the following: ethyl cellulose; allyl starch; dimethylolurea combined with gelatin, methyl cellulose, and polyvinyl alcohol; formaldehyde combined with animal glue, gelatin, and polyvinyl alcohol; glyoxal combined with cornstarch, gelatin, hydroxyethyl cellulose, methyl cellulose, and polyvinyl alcohol; melamine-formaldehyde resin combined with cornstarch, gelatin, and methacrylate resin; and a finish combining gelatin, colloidal silica, and methacrylate resin. Stocking legs knit in the Bureau's laboratory from many of these treated yarns, also additional stockings knit from untreated yarn and subsequently finished with chemical finishes, were evaluated according to their weight, distensibility, bursting strength, and resistance to abrasion. Several of the above finishing treatments had the effect of improving these properties in stockings.
GNR TTD: 6-48

Finishing machinery. Textile finishing machinery. Edw. S. Pierce, H. W. Butterworth & Sons, Inc. *Am. Dyestuff Reptr. 37,* No. 6, P186-91 (Mar. 22, 1948).

A review of general changes and new developments in the field of textile finishing machinery since 1940, and of the effect of the new trends on the processing of textile fabrics. Continuous "J" box bleaching, tentering, and continuous vat dyeing are discussed in detail. Designs of new machinery by H. W. Butterworth & Sons, Inc. are discussed.
WPU, jr. TTD: 6-48

Gyratory method. Gyratory method. Washing and dyeing methods. 1937. I. G. Farbenindustrie A. G., PB 45418, 1936-38. 75 pp. *Bibl. Sci. Ind. Reports 4,* 942 (Mar. 14, 1947). Price: $2.00 (Microfilm); $5.00 (Photostat).

This is a collection of patents, patent applications and related correspondence all of which refer to washing and dyeing machines causing the material to be treated to oscillate quickly during the treatment. The collection includes: 2 English patent applications without number, one dated Oct. 27, 1938, the other undated; English P. 476 172. German patent application I. G. No. 6876, and the corresponding application I 59553. Two letters of I. G. Farben to the German Patent Office and relating to application I 59554; the claims for the German patent application I 59554; German patent application I 59544. TTD: 6-48

Permanent finish. Kandar, permanent finish. Geo. R. Vila, U. S. Rubber Co. *Textile Colorist 69,* No. 11, 31 (Nov. 1947).

A permanent resin finish, Kandar, gives fabrics a certain rigidity by bonding fibers to fibers and yarns to yarns. It improves the fullness, hand, and draping qualities of fabrics and will last through launderings and dry cleanings for the life of the garment. TTD: 6-48

Plissele finish. Plissele, transforming finish. Frederick G. Brown, Apponaug Co. *Textile Colorist 69,* No. 11, 29 (Nov. 1947).

The Plissele finish is a process of applying thermosetting resins to plain woven fabrics or pile fabrics. The resultant finish can be made to look like and to feel like Moires, Jacquards, Twills, and many other woven effects. Properties of fabrics finished by this process include washability, durability, crease resistance, and low residual shrinkage. TTD: 6-48

Resin treatment. Resin treatment improves fiber strength. Anon. *Textile World 97,* No. 12, 162 (Dec. 1947).

The Yanda process consists of pretreating both cellulose and non-cellulose fibers with a partially polymerized penetrating resin solution and then treating the fibers with resin-forming chemicals. Treatment of low-grade cotton, cotton for tire cord, and new finishes are potential future applications of this process. TTD: 6-48

Slasher. Avondale reports progress with gas-fired, hot-air slasher. Anon. *Textile Industries 111,* No. 12, 99-100, 102 (Dec. 1947).

A gas-fired, hot-air slasher, in use at Avondale Mills, is described and illustrated. This slasher drys the warp by the circulation of hot air in a chamber as the warp passes over a series of pulleys. TTD: 6-48

Solubilization. Solubilization in textile processing. Jos. W. Creely. *Am. Dyestuff Reptr. 36,* No. 15, 411-12, 424 (July 28, 1947).

Solubilization is defined as the taking up by solutions of soaps and detergents of substances which are insoluble or slightly soluble in the solvent itself. For example, phenol and cresol are more soluble in aqueous soap solutions than in water. Applications of solubilization to the recovery of grease from wool, to increasing the cleansing power of the solvents used in dry cleaning, and to the removal of paint are discussed. TTD: 6-48

Starchless finish. "Starchless" finish cottons. John T. Miller, Bellman Brook Bleachery Co. *Textile Colorist 69,* No. 5, 30-1 (May, 1947).

Cotton when given a starchless finish known as Bellmanized becomes a transparent, glass-like yarn, round and smooth, of great tensile strength, and unaffected by washing. Fabrics treated by this process do not require starching and do not become sleazy and fuzzy surfaced after washing. TTD: 6-48

Washing and dyeing. Washing and dyeing methods. I. G. Farbenindustrie A. G. PB 45417, 1940. 135 pp. *Bibl. Sci. Ind. Reports 4,* 942 (Mar. 14, 1947). Price: $3.00 (Microfilm); $9.00 (Photostat).

This is a collection of German and foreign patents all of which relate to washing and dyeing machines causing the material to be treated to oscillate quickly during this treatment. TTD: 6-48

Coated fabric. David J. Sullivan (to E. I. du Pont de Nemours & Co.). USP 2 431 001, Nov, 18, 1947.

Fabrics designed for upholstery use are given a multiple coating, the top layer of which is given a halogenation treatment. The base and intermediate coats are preferably compounded from sulfur-modified chloroprene, and the top coat from a chloroprene-acrylonitrile copolymer. The halogenation treatment of the top coat produces upholstery material of exceptionally high resistance to abrasion, flexure, sunlight, staining, and edge wear.
WPU, jr. TTD: 6-48

Coating fabrics. Geo. W. Flanagan (to B. F. Goodrich Co.). USP 2 431 745, Dec. 2, 1947.

A textile fabric is coated with a plasticized vinyl resin in two stages. The first stage consists of applying an aqueous dispersion of the vinyl resin and curing it by controlled heating; the second consists of coating the fabric bearing the first coating with a solution of the vinyl resin in a volatile solvent and removing the solvent. This double coating is tightly adherent to the fabric, is highly impervious to water, and is highly resistant to abrasion, being superior in these respects to single-coated fabrics made by applying the coating by either of the above stages alone.
WPU, jr. TTD: 6-48

Coated stitched fabric. Ida T. Goldman. USP 2 433 270, Dec. 23, 1947.

Stitched fabrics are impregnated with a plastic material, which is applied to one side of the fabric. The impregnating material is kneaded into the fabric by moving the plastic first in the direction of the stitches. The process is continuous and excess plastic is removed from the cloth by a doctor blade. The fabric may be used as a water resistant backing to an absorbent filler for diapers.
CCJ TTD: 6-48

Processing fabrics. Richard P. Monsaert, Sr. (to United Merchants & Mfrs., Inc.). USP 2 433 620, Dec. 30, 1947.

This is a method of treating light weight cloth woven from staple fibers, particularly the synthetic fibers (rayon, acetate, etc.) as well as cotton to improve crease resistance, feel, density, texture and appearance. Fabics are placed in a rotary, perforated, cylindrical drum mounted inside a stationary cylindrical drum. The fabrics are treated with an aqueous solution of a diastatic enzyme, or other size-removing compound, during which the cloth is tumbled against baffles located inside of the rotary cylinder. Following this treatment, tumbling and beating the cloth is carried out in a detergent solution and then in water. Elevated temperatures below that required to destroy the size-removing compound or adversely affect the fibers are recommended. It is claimed that the beating and tumbling action improves crease resistance and gives a matte appearance to the cloth similar to woolen fabrics.
CCJ TTD: 6-48

Cellulose processing. Procedure for continuous treatment of cellulose bands on conveyers which are passed through alkali baths. Hoening, Maschinenfabrik Imperial GmbH. Ger. P. 711 294, Sept. 29, 1941. 5 pp. *Bibl. Sci. Ind. Reports 4*, 1190 (Mar. 28, 1947). TTD: 6-48

COLOR VII

Color. Color fundamentals. Rick Mansell. *Textile Colorist 69*, No. 7, 20-1, 44 (July, 1947).

The basic principles of color are reviewed, and the physiological and psychological effects of color are discussed. TTD: 6-48

Bleaching VII 1

Bleaching. Knit goods bleached in continuous range. C. Mallard Bowden, Textile World. *Textile World, 98*, No. 4, 105-6 (Apr. 1948).

Fortune Bleach and Dye Works, Lumberton, N. D., has a continuous knit-goods bleaching range rated at 1,000,000 yds. per week on a 2-shift basis. The Du Pont developed system is reported to be capable of handling 4-yd. fabric in about 1/6 the time required by a kier process. Details of operation are given.
LCL TTD: 6-48

Bleaching. Bleaching methods compared by laboratory analyses. Jas. H. Kettering. Southern Regional Research Laboratory. *Textile World 98*, No. 4, 139, 224, 226, 228, 230 (Apr. 1948).

A summary of USDA Tech. Bull. No. 941 is given. Comparisons of hypochlorite, peroxide kier, and continuous peroxide bleaches of cotton print cloths are made on the basis of wax and ash removal, breaking strength, fluidity, and reflections.
LCL TTD: 6-48

Bleaching knit goods. Knit goods bleached continuously. W. A. Newell, Textile World, *Textile World 97*, No. 12, 108-9 (Dec. 1947).

An illustrated discussion of Du Pont continuous bleaching of knit goods at Spring City Bleach and Dye Works.
LCL TTD: 6-48

Stripping dyed wool. An electrolytic method for stripping color from dyed wool. Ernest R. Kaswell. *Am. Dyestuff Reptr., 37*, No. 4, P 119-P 130 (Feb. 23, 1948).

A method is described for stripping color from dyed wool by a process which utilizes the continuous elcetrolysis of compounds of titanium, chromium and vanadium. It removes vat and chrome colors and leaves the stripped wool substantially as soft and resilient as before stripping, thus overcoming the 2 chief disadvantages of the sufoxylates currently used as stripping agents. The reagent may be continuously and repeatedly used (two or three strips for dark indigos up to ten strips for some acid colors), and the process has about the same cost as sulfoxylate stripping.
WPU, jr. TTD: 6-48

Bleaching acrylonitrile polymers. Robt. A. Scheiderbauer (to E. I. du Pont de Nemours & Co.). USP 2 432 447, Dec. 9, 1947.

Yarn composed of acrylonitrile polymer and copolymers is treated, after either dry or wet spinning followed by drying, with an aqueous solution of hypochlorous acid at a temperature of 90–150° C. This bleaching treatment removes objectionable coloring present in the yarn.
WPU, jr. TTD: 6-48

Bleaching polyacrylonitrile. John C. Richards (to E. I. du Pont de Nemours & Co.). USP 2 432 448, Dec. 9, 1947.

Yarn composed of acrylonitrile polymer and copolymers is treated, after wet spinning and while still in the gel state, with an aqueous solution of hydrogen peroxide or hypochlorous acid. This bleaching treatment removes objectionable coloring present in the gel yarn.
WPU, jr. TTD: 6-48

Dyeing VII 2

Acid dyeing. The application of chemical controls to acid dyeing. Richard B. Stehle & others. *Am. Dyestuff Reptr. 37*, No. 5, 149-165 (Mar. 8, 1948).

A large number of experiments is described, in which the rate of dyeing of wool with acid dyes was regulated by chemical controls. Dyestuff absorption curves were determined for a number of dyes at various pH levels. The rate of distribution of acid through a lot of goods in the dyebath was studied for sulfuric and acetic acids, with and without added sodium sulfate. Acetic acid was found to transfer more readily than sulfuric acid. When the pH was kept constant (on the acid side), many of the acid dyes were absorbed very rapidly in the first several minutes of dyeing. This could be avoided by using a higher pH at the start, and adding small amounts of acid during the course of the dyeing, or by putting in acid-forming salts at the beginning of the dyeing.
WPU, jr. TTD: 6-48

Continuous dyeing. Laboratory machine gives data on continuous dyeing. C. L. Zimmerman, Am. Cyanamid Co. *Textile World 97*, No. 12, 116-17 (Dec. 1947).

Details are given for construction and operation of a dye tank to be used on a laboratory padder. Conditions simulate those in a Williams Unit.
LCL TTD: 6-48

Direct dyeing theory. R. H. Peters & T. Vickerstaff, Imperial Chemical Industries, Ltd. *Proc. Roy. Soc. 192*, 292-308 (Feb. 4, 1948).

An equation is derived from thermodynamic treatment which accounts quantitatively for the relations formed between equilibrium dye absorption, dye electrolyte concentration, and dyeing temperature for selected direct dyes on cellulose. It leads directly to values for heat of reaction and to values for the affinity of dyes for the fiber. The affinities of 9 direct colors for viscose have been derived and are shown to fall in different orders, depending on the salt concentration in the dyebath.
MC TTD: 6-48

Dyeing. Avondale re-equips for package dyeing. M. T. Barnhill, Avondale Mills. *Textile World 98*, No. 4, 125 (Apr. 1948).

New automatic dyeing and drying machines which handle 500 lb. batches and are manufactured by Smith, Drum & Co. are in use at Avondale Mills. Drying time has been reduced from 24 hrs. to 8 hrs. by blowing hot air from the inside of the yarn tube to the outside of the package.
LCL TTD: 6-48

Dyeing. Pastel hose shades test dyers' techniques. Howard Plumlee. *Textile World 98*, No. 4, 107-9 (Apr. 1948).

Dyeing of 10- and 15-denier nylon hose made of a mixture of monofilament and multifilament yarn presents aggravating problems. Adequate supply of pure, soft water, and accurate control of temperature and time are important. TTD: 6-48

Dyeing. Special handling required for rayon knit goods. Anon. *Textile World 98*, No. 4, 115, 231-2 (Apr. 1948).

Highlights are abstracted from forthcoming book, "Rayon Technology Handbook for Mills". Acetate tricot fabrics develop cracks when dyed in rope form. Viscose tricot fabrics can be dyed in rope form. A recent development in suction cylinder drying, by American Viscose and Proctor and Schwartz, has been found satisfactory at speeds of 40-45 yds. per min.
LCL TTD: 6-48

Dyeing whipcord fabrics. Piece-dyeing whipcord fabrics. Kemmek. *Textile Mercury & Argus 116*, 710 (May 16, 1947).

Methods of eliminating defects, such as felting, heat marks, etc., in whipcords during dyeing are discussed, and suitable dyes for these fabrics are presented.
TTD: 6-48

Dyes. Seven new dyes announced by General. Anon. *Textile World 98*, No. 1, 152 (Jan. 1948).

Properties of 7 new dyes (of the General Dyestuff Corp.) are briefly reviewed. TTD: 6-48

Hosiery dyeing. Current developments in hosiery dyeing. E. J. Siegrist, Holeproof Hosiery Co.

Am. Dyestuff Reptr. 37, No. 6, P 192-94, 209 (Mar. 22, 1948).

Careful selection of dyestuffs is of major importance in dyeing nylon hosiery whether acid or acetate dyes are used. Control of time and temperature have an important bearing on unions where various types of nylon yarns are used in the same stocking. In dyeing these combinations, the usual recommended temperature of 150°F can be exceeded, and any increase above 150°F will result in easier leveling. For dyeing dark shades on nylon-cotton or nylon-rayon combinations the use of magnesium sulfate with acid colors generally yields greater color value without the hazards of an acid dye bath. When 2 or more acid dyestuffs are used together to produce a given shade, selection of these dyes should be based on their behavior as to saturation point, speed of exhaust, and relative neutral affinity.

WPU, jr. TTD: 6-48

Nylon dyeing. Studies on nylon dyeing. Effect of dyeing procedures. Louis I. Fidell, Geo. L. Royer & Henry E. Millson, Am. Cyanamid Co. *Am. Dyestuff Reptr. 37,* No. 5, P166-P182 (Mar. 8, 1948).

Experimental methods of dyeing and microscopical examination have been applied in a study of the dyeing of nylon with acetate, acid, direct, metallized and chrome dyes. The use of acetic, formic and sulfuric acids in the application of these dyes to nylon has been investigated in general at practical concentrations, and it is shown that at lower pH levels, the exhaustion is increased in all cases excepting the acetate dyes. Physical tensile data obtained on fabric and single nylon fibers show that at practical dye concentrations and values of pH not lower than 1.6 no appreciable deterioration of the nylon occurs in dyeing. A new term "preferential sorption" is introduced and defined with reference to the influence of one dye on the sorption of another, and data are given to illustrate this phenomenon. Examples of the effect of differences in the physical properties of nylon in dyeing behavior are also discussed briefly.

WPU, jr. TTD: 6-48

Research. Basic research in coloring and finishing of textiles. M. L. Crossley, Am. Cyanamid Co. *Papers Am. Assn. Textile Technologists 3,* 9-17 (Dec. 1947).

Basic research and the tools available for its accomplishment are considered as to textile dyes, the application of dyes, and finishing. TTD: 6-48

Skein reeling. Economical skein reeling. Robt. M. Harbeck, Fidelity Machine Co., Inc. *Textile Industries 111,* No. 11, 94-7 (Nov. 1947).

Formulas and graphs are presented in a discussion of methods of determining whether the skein reeling operation is being accomplished on an efficient basis.

TTD: 6-48

Textile processing. Post-war textile processing. R. W. Jacoby, Ciba Co. *Am. Dyestuff Reptr. 36,* No. 13, P347-51, 364 (June 30, 1947).

A discussion of the tremendously increased production of processed textiles, and of improved, more nearly continuous processes, such as the Williams dyeing unit, and pad-steam ranges. The effect of war developments on the quality of textile processing is also reviewed, including such items as the trend toward use of vat color dyeing and printing, permanent resin finishes, mixtures of fibers, and pigment applications to textiles. Textile processing must now distribute its costs differently than before the war, because of the relatively much higher cost of labor.

WPU, jr. TTD: 6-48

Vat dyeing. Experimental studies of vat dyeing. O. W. Clark, Am. Cyanamid Co. *Am. Dyestuff Reptr. 37,* 82-91 (Feb. 9, 1948).

The factors influencing the selection of dyes for high-temperature continuous vat dyeing of cotton and rayon, the application of anthraquinone vat dyes to wool, the use of vat dyes in continuous dyeing of long-chain cotton warp yarns, and the use of the cascade machine in skein vat dyeing are discussed.

WPU, jr. TTD: 6-48

Wool dyeing. Dyeing and fastness characteristics of aqueous-chlorinated wool. Anon. New York Section, AATCC. *Am. Dyestuff Reptr. 37,* No. 7, P221-236 (Apr. 5, 1948).

The dyeing characteristics of a standard woolen flannel were compared with those of pieces of the same flannel that had been treated by representative aqueous chlorination methods. It was shown that the rate of dyeing of acid-, milling-, metallized-, chrome- and soluble vat dyes, especially during the early stages, is influenced to a pronounced degree by the various chlorination processes. The final shade and strength obtained is also dependent upon the treatment. The chlorination processes did not affect the light fastness of the dyes used, but it did affect their wash fastness, especially of the acid- and milling dyes.

WPU, jr. TTD: 6-48

Wool dyeing. Studies of wool dyeing. Comparison of methods for applying chrome colors. Geo. L. Royer, H. E. Millson & C. A. Amick, American Cyanamid Co. *Am. Dyestuff Reptr. 36,* No. 16, 425-37 (Aug. 11, 1947).

The top chrome, bottom chrome, metachrome and Cal-

comet methods were compared experimentally, using several chrome dyes, and a detailed comparison of the various methods are made with Calcochrome Red ECB in regard to rate of dyeing, rate and extent of chromation, pH and the completeness of exhaustion.
WPU, jr. TTD: 6-48

Modifying dye affinity. Glenn F. Womble & Paul Feldmann (to Dan River Mills, Inc.). USP 2 430 153, Nov. 4, 1947.

Cellulosic materials are rendered resistant to dyes normally used for cellulose by being heated in the presence of quaternary nitrogen derivatives of aliphatic ethers or amides. Affinity is increased for cellulose acetate type dyes.
MC TTD: 6-48

Resin application. Raymond W. Jacoby (to Ciba Products Corp.). USP 2 431 562, Nov. 25, 1947.

Melamine-formaldehyde-type resins are rendered substantive to textile materials by mineral acid treatment, after which they may be applied in dyeing machinery and finished in the usual manner for resin-treated materials.
MC TTD: 6-48

Dyeing acrylonitrile polymer. Frank B. Moody (to E. I du Pont de Nemours & Co.). USP 2 431 956, Dec. 2, 1947.

Improvement of azoic-type dyeing of polyacrylonitrile yarn, preferably in the "gel" or coagulant-swollen state, by treatment with an aqueous acid between the initial application of naphthol coupling component and the final application of diazotized base.
MC TTD: 6-48

Yarn dyeing. Luigi C. Galatioto. (to Textron Inc.) USP 2 432 404, Dec. 9, 1947.

This is a device for continuous uniform application of dye liquor to individual yarn or filaments at winding machine speeds. The liquor is transferred to the fiber from felt wicks between which it passes under slight pressure. Concentration of dye and assistants must be such that dye penetration rather than surface deposition is effected during subsequent drying.
MC TTD: 6-48

Dyeing glass fibers. Jack W. Perloff (to Owens-Corning Fiberglas Corp.). USP 2 433 292, Dec. 23, 1947.

The glass fibers, either as single fibers, yarns or fabrics, are cleaned thoroughly and prepared for dyeing by immersing in a suspension of hectorite, a hydrated magnesium silicate mineral containing about 30% of calcite, and drying. Fibers so prepared may be dyed by methyl

red, methylene blue, methyl orange, alizarine yellow, potassium dichromate, etc. After drying, the dyed film is insolubilized by treating with a concentrated solution of lead, zinc, nickel or copper acetates, or of various metal chlorides. The excess dye and fixative agents are removed by washing and the fibers dried. The colors are stable and fast.
GNR TTD: 6-48

Dyeing. Process for dyeing of furs, hairs or feathers. Petz & others. I. G. Farbenindustrie A. G. Ger. P. 705 524, Apr. 30, 1941. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 3 pp.

The material is treated with compounds which contain a diazotizable amino group and at least one position which is capable of being coupled (determined by the presence of an hydroxyl group). TTD: 6-48

Dyeing. Process for dyeing of furs, hairs or feathers by method employed in oxidation dyes. Lehmann, I. G. Farbenindustrie A. G. Ger. P. 705 859, May 12, 1941. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 2 pp. TTD: 6-48

Azo dyeing. Process for preparation of azo dyes insoluble in water upon animal or cellulose fibers as well as upon mixtures thereof or upon vulcanized fiber shapes. Zitscher & others. I. G. Farbenindustrie A. G. Ger. P. 709 724, Sept. 2, 1941. *Bibl. Sci. Ind. Reports 4,* 1008 (Mar. 14, 1947). 3 pp.

Addition to Patent 705 775. TTD: 6-48

Dyeing. Proces for preparation of dyes upon cellulose or animal fibers or mixtures thereof. I. G. Farbenindustrie A. G. Ger. P. 710 395, Sept. 12, 1941. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 11 pp. TTD: 6-48

Dyeing animal fibers. Process for preparation of fast dyes upon animal fibers or fibrous mixtures containing animal fibers. Köberle & others, I. G. Farbenindustrie A. G. Ger. P. 711 327, Sept. 30, 1941. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). TTD: 6-48

Azo dyeing. Process for preparation of azo dyes on cellulose esters and ethers or on fibrous materials containing such compounds. Kirst, I. G. Farbenindustrie A. G. Ger. P. 711 328, Sept. 30, 1941. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 2 pp. TTD: 6-48

Dyeing cellulose. Process for dyeing of cellulose fibers with vat dyes. Müller & Münster, I. G. Farbenindustrie A. G. Ger. P. 711 976, Oct. 9,

1941. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 4 pp.

Addition to Patent 692 626. TTD: 6-48

Dyeing wool. Process for dyeing of wool or fiber materials containing wool with acidic dyes. Jochum & Finck, I. G. Farbenindustrie A. G. Ger. P. 715 376, Dec. 19, 1941. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 2 pp. TTD: 6-48

Dyeing cellulose. Process for dyeing of cellulose fibers or of mixtures of cellulose fibers with animal fibers. Kirst & Fischer, I. G. Farbenindustrie A. G. Ger. P. 717 023, Feb. 4, 1947. *Bibl. Sci. Ind. Reports 4,* 1007 (Mar. 14, 1947). 2 pp. TTD: 6-48

TEXTILE CHEMISTRY AND DYEING. Part I. Chemical Technology of the Fibers. 10th Ed. Anon. Lowell Textile Associates Inc., 1947; 203 pp.; price: $3.00.

Reviewed in *Rayon Textile Monthly 29,* 95 (Jan. 1948). TTD: 6-48

Printing VII 3

Photographic printing. Photographic printing successful on velvets, crepes, and satins. Robt. E. Ellsworth. *Rayon Textile Monthly 29,* No. 1, 41-42 (Jan. 1948).

A method of photographic printing has been developed which allows fabrics from satin to heavy wools to be printed. The fabric to be printed is treated with a sensitizer and fed into the printer which is equipped with a glass roller upon which the transparencies are placed. Mercury vapor light radiates through the film and acts upon the sensitizer.

ASJ TTD: 6-48

Printing. Designing for textile printing. Anon. *Textile Mercury & Argus 116,* 802, 805, 815, 848-9, 919-20, 958, 960; *117,* 27-9 (June 6, 13 & 27; July 4 & 11, 1947).

The 3 main methods of printing: roller engraving, screen, and hand block, are reviewed. The use of engraved copper rollers to obtain stipple and cover effects is described. Repeat and arrangement of various portions of a design for all classes of print design are also discussed. TTD: 6-48

Vat printing. Estimation of vat printing paste on cloth and an electrometric analysis of the critical chemical. H. E. M. Specht, Cranston Print Works, Co. *Am. Dyestuff Reptr. 37,* No. 4, 110-11, 130 (Feb. 23, 1948).

A relatively simple and rapid method of analysis of vat print paste on cloth is described, in which the sodium sulfoxylate portion of the paste is converted into sulfate by oxidation with alkaline hydrogen peroxide. An iodometric method for analyzing printed cloth for the quality of active reducing agent present in the print also was given. For the determination of the active sulfoxylate content in pastes containing strong colors, where the starch-iodine endpoint is masked, an electrometric method was devised and applied.

WPU, jr. TTD: 6-48

Vat printing. Roger Ratti & Philipp Brandt (to Durand & Huguenin S. A.). USP 2 431 708, Dec. 2, 1947.

Dispersion of difficult soluble dyestuffs in indigosol-type vat printing pastes is improved by addition of betaines or sulfo-betaines.

MC TTD: 6-48

Vat printing. Roger Ratti & Philipp Brandt (to Durand & Huguenin S. A.). USP 2 432 041, Dec. 2, 1947).

Dispersion of difficult soluble dyestuffs in indigosol-type vat printing pastes is improved by addition of N-polyethanoxy quaternary ammonium salts together with urea or other water-soluble amides.

MC TTD: 6-48

Printing. Method of transferring, by projection, photographically reduced pattern combinations. Gustav Reckmann. Ger. P. 715 483, Dec. 22, 1941. 3 pp. *Bibl. Sci. Ind. Reports 4,* 1115 (Mar. 21, 1947). 3 pp.

Drawings included. TTD: 6-48

Printing pressure roll. Counter pressure roll designed to imprint textiles, paper, artificial materials and the like. Preisler, Kleineweferes, Joh., Söhne. Ger. P. 720 299, Apr. 30, 1942. 2 pp. *Bibl. Sci. Ind. Reports 4,* 1206 (Mar. 28, 1947). TTD: 6-48

Measurement and defects VII 4

Atmospheric gas fading. Comparison of 2 current test procedures for testing fabric resistance to atmospheric gas fading. Francis K. Ray, Pennsylvania State College. *Am. Dyestuff Reptr. 37,* No. 3, 76-9 (Feb. 9, 1948).

Two standard methods of testing dyed textile fabrics for color fastness to atmospheric gases were compared. The methods were those of the AATCC and of the Natl. Bur. of Standards Commercial Standard CS59-44. Fabrics given both gas-fading tests looked about the

same. When reflectometer readings and calculated values derived therefrom were employed, differences were slight for most fabrics. In a few instances, however, distinct differences appeared, which were apparently related to the sensitivity of the dyed fabric to gas fading. Fabric strength was not affected significantly during either method of test.
WPU, jr. TTD: 6-48

Crocking. Anon. *Rayon Textile Monthly 29,* No. 1, 86 (Jan. 1948).

Electron micrographs were made of (1) wool fibers dyed at 190°F and (2) of fibers which had been boiled for 1.5 hrs. after dyeing at 190°F. The first showed particles of dye lying on the surface, caught and dumped against the overlapping edges of the infinitesimal scales on the surface of the wool. The second showed the surface to be almost completely free of particles. Dye remains on the surface of wool fibers if oils or soaps have not been completely removed, if the water is hard, or if the surface of the fibers is damaged by an excess of alkali. TTD: 6-48

PROOFING VIII

Cotton degradation. Degradation of untreated cotton fabrics exposed to weather in sub-tropical climate. J. D. Dean & R. K. Worner, Southern Regional Research Lab. *Am. Dyestuff Reptr. 36,* No. 15, 405-410, 423-24 (July 28, 1947).

The average, year-round effects of the weather in the subtropical climate of New Orleans on untreated cotton fabrics of different weights and constructions were determined. Losses in strength are accompanied by increases in cuprammonium fluidity. Kier-boiled and bleached cloth suffer slightly greater average strength losses than gray cloth of equal weight and have higher fluidity values at points of equal strength loss. Wide variations in breaking strength losses in replicate samples have been attributed to biological attack because they were accompanied by only minor changes in fluidity.
EA TTD: 6-48

Fire-resistant textiles. Trends in the evolution of fire-resistant textiles. Robt. W. Little, Ellicott Laboratories. *Am. Dyestuff Reptr. 37,* No. 4, P114-P118 (Feb. 23, 1948).

A discussion is made of the terminology applied to fire-resistant fabrics, flammability legislation, the types of fabrics most benefitted by a fire-resistant treatment, the mechanisms by which flameproofing agents function, and the types of flameproofing treatments available.
WPU, jr. TTD: 6-48

Flameproofing. Flame-resistant and flameproof finishes. Robt. W. Little. *Textile Colorist 69,* No. 7, 26-7 (July, 1947).

Flame-resistant and flameproof finishes are discussed in relation to their permanence, strength, effect on fabrics, and cost. Ellicote F-39, a simple and versatile flameproofing medium, is designed to flameproof flat cotton fabrics but is also applicable to many rayon fabrics and some woolen and acetate materials. Properties of fabrics, finished with Ellicote F-39, are reviewed.
TTD: 6-48

Flammability. Flammable garments and proposed national legislation on flammable textiles. F. Bonnet, Am. Viscose Corp. *Rayon Textile Monthly 29,* No. 1, 53-54 (Jan. 1948).

The author describes types of fabrics likely to be hazardous, the history of the work leading to a standard method of testing, and legislation for or proposed to reduce the hazard to consumers.
HAM TTD: 6-48

Mothproofing. Mothproofing compound carries U. S. Testing seal. Anon. *Textile World 98,* No. 2, 160 (Feb. 1948).

Beconize, a durable mothproofing compound, may be applied to wool fabrics at any stage of manufacturing by spraying, exhaustion, or padding. TTD: 6-48

Proofing process. New process makes fabric resistant to fire and water. Anon. *Textile Colorist 69,* No. 7, 45 (July, 1947).

Fabrics, composed of a mixture of asbestos and cotton fibers, may be rendered fire-resistant and water-repellent by treatment with soaps of the heavy metals such as zinc. TTD: 6-48

Resin finishes. Synthetic resins and their application. Francis Tripp, New Bedford Textile Inst. *Textile Bull. 73,* No. 6, 38, 41, No. 8, 41-2, 44 (Nov. 15, Dec. 15, 1947).

Both thermosetting resins (urea formaldehyde, melamine formaldehyde, etc.) and thermoplastic resins (acrylic acid esters, vinyl acetates, etc.) are being used to shrinkproof and creaseproof fabrics. A 3-roll mangle, tenter frame, cure box, and open or full width washer are needed in the practical application of resins to textile fabrics. TTD: 6-48

Sheerset resin. "Sheerset" featured at Copacabana. Anon. *Textile Colorist 69,* No. 9, 35 (Sept. 1947).

Stabilization and durable crispness are properties found in sheer fabrics of nylon and blends of rayon and nylon which have been treated with a thermosetting resin, Sheerset. TTD: 6-48

Shrinker. Redman shrinker passes experimental test. Earle E. West, secretary, Underwear Inst. *Textile World 98*, No. 4, 110 (Apr. 1948).

An experimental Redman shrinker, built by Proctor and Schwartz, has proven satisfactory at the Spring City Bleach and Dye Works. The operation has been limited to cotton and wool knit goods but is believed to be economical.

LCL TTD: 6-48

Shrinkproofing socks. Shrink-resistant sock treatment revealed by QMC. Anon. *Textile World 98*, No. 4, 111, 112, 113, 114, 232, 234, 236 (Apr. 1948).

Abstracts are taken from QMC Textile Series Report No. 46, on work by Harris Research Laboratories and QMC Philadelphia Depot. The impregnation and enzymatic modification process, the controlled chlorination process, the calcium-hypochlorite-inhibitor process and the alcoholic potassium hydroxide process were studied concerning the problem of shrinkproofing wool socks. Of these the controlled chlorination process seemed the best. The coefficient of static friction of the wool fibers was usually increased.

LCL TTD: 6-48

Water repellency research. Research necessary to rainwear fabrics. Anon. *Textile Colorist 69*, No. 9, 31, 58-9 (Sept. 1947).

A discussion of the research on water repellency that is being carried on by the Du Pont Company.

TTD: 6-48

Waterproofing. Waterproofing. D. H. Powers, Monsanto Chemical Co. *Textile Colorist 69*, No. 9, 33 (Sept. 1947).

Fabric construction, garment construction, and fabric finish in producing rainwear garments are briefly considered. TTD: 6-48

Printed and coated fibrous material. Jas. B. Butler. USP 2 430 386, Nov. 4, 1947.

A method for treating sheets of fibrous material with a solution of vinyl acetate in a mixture of toluene and methyl alcohol is claimed. Only sufficient solution is used to impregnate the fibers and provide for an extremely thin film on the surface. The film must not be thick enough to alter materially the "tooth", or natural prominences of the fibrous surface. The solvent is then evaporated, leaving the material impregnated with the polymer. It is claimed that this treatment results in a water resistant, fire resistant, fibrous material which can be printed either before or after the above treatment, and upon which it is possible to make markings with

pencil, crayons, or ink as well as erase and replace these markings at will. Folding or crumpling does not alter these qualities.

GNR TTD: 6-48

TESTING AND ANALYSIS IX

Microbiological laboratory. Practical microbiological laboratory. Francis Tripp, New Bedford Textile Inst. *Textile Bull. 73*, No. 4, 36, 38, 61 (Oct. 15, 1947).

Practical suggestions for equipping a microbiological laboratory for evaluating mildewproofing agents, etc. are described. TTD: 6-48

Standards. Standards for water repellency. Arthur Kahn, Arthur Kahn Co. *Textile Colorist 69*, No. 9, 26-7, 47 (Sept. 1947).

Suggested standards for water repellent fabrics are discussed with reference to the Spray test and the Rain-tester, 2 tests for water repellency. TTD: 6-48

Testing laboratories. Commercial laboratory and its role in textiles. H. M. Block, U. S. Testing Co., Inc. *Textile Forum 4*, No. 3, 10-13, 30-33 (Fall, 1947).

The application of the commercial laboratory to the textile industry for providing adequate research, development, testing, and quality control is discussed.

TTD: 6-48

Testing textiles. 20 years of textile testing at Macy's. Ephraim Freedman, Macy's. *Textile Colorist 69*, No. 7, 29 (July, 1947).

A review of the progress made in the past 20 years at Macy's Bureau of Standards, the first textile testing laboratory in a department store. TTD: 6-48

Physical properties IX 1

Detergency. A simple laboratory method for evaluation of detergency. A. J. Kelly & D. H. Gunther, Burkart-Schier Chemical Co. *Am. Dyestuff Reptr. 36*, No. 16, P455-56 (Aug. 11, 1947).

A simple detergency machine, consisting of a shaking mechanism and a group of "thermos" bottles is recommended for making routine tests in an economical fashion.

WPU, jr. TTD: 6-48

Detergents. Evaluating synthetic detergents. Anon. *Textile Bull. 71*, No. 9, 20-1 (Jan. 1, 1947).

In evaluating a detergent, the properties should be first determined; conditions under which the product per-

forms at its best should be then ascertained; and, finally, the minimum concentration at which satisfactory detergent action is produced should be measured. The launderometer is the most commonly used method of testing synthetic detergents. TTD: 6-48

Electron microscope. Electron microscope increases usefulness in textiles. Anon. *Textile World 98*, No. 3, 123 (Mar. 1948).

A discussion of the use of the electron microscope in the study and testing of fibers and dyes at the conference of the Electron Microscope Society of Am. TTD: 6-48

Laboratory padder. Laboratory padder aids dyeing tests. Anon. *Textile World 98*, No. 1, 141 (Jan. 1948).

A 3-roll laboratory padder that may be used for testing formulas of dyes and for color matching is briefly described. TTD: 6-48

Moisture content. Moisture meter calibrated for mill use. E. A. McMaster. U. S. Rubber Co. *Textile World 98*, No. 4, 141, 143, 201-2 (Apr. 1948).

The U. S. Rubber Company (Hoganville, Ga.) has calibrated a Shirley moisture meter to obtain regains comparable to those obtained with an Emerson oven. Moisture is determined by measuring the electrical resistance of the goods. The apparatus operates on 200-250 volt AC and fluctuations in line voltages are adjusted before each use.
LCL TTD: 6-48

Rayon laundering. Mechanical degradation of rayon fabrics in domestic laundry procedures. Mary H. Graydon, Dorothy M. Lindsley & Jessie B. Brodie, Univ. of Toronto. *Am. Dyestuff Reptr. 36*, No. 14, 397-99 (July 14, 1947).

Cellulose acetate satin and taffeta, viscose spun slub crepe, viscose taffeta, and cuprammonium crepe were washed by 2 variations of hand washing methods and 2 variations of machine washing methods, and pieces removed for testing after 5, 10, 20, 30, 40, and 50 washings. A statistical analysis of determinations of tensile strength showed that no one method produced greater losses of strength than the others; however, repeated washing caused a loss in tensile strength. The results indicate that modern rayon fabrics will withstand more vigorous washing than is now recommended, and that harshest of the methods used, soaking, machine washing, and machine wringing, produced no greater degradation than any of the other 3 methods. This method also proved to be the most efficient in soil removal. Preliminary soaking is not advised for colored rayons.
WPU, jr. TTD: 6-48

Testing cotton fibers. Cotton fibers analyzed electronically. Anon. *Textile World 98*, No. 3, 145-6 (Mar. 1948).

An electronic instrument, the Fibrograph, uses light-sensitive photo tubes for determining the length and uniformity of cotton fibers. TTD: 6-48

Testing elastic properties. Sonic method determines elastic modulus of textiles. Anon. *Textile World 98*, No. 1, 141-2 (Jan. 1948).

The elastic properties of fibers, yarns, and fabric can be determined by a new automatic instrument, using the pulse techniques. TTD: 6-48

Testing fiber fineness. Air gage measures fiber fineness. W. S. Smith, West Point Mfg. Co. *Textile Industries 111*, No. 11, 86-8 (Nov. 1947).

The history, operation, advantages, and variables of the air gage, an instrument for measuring fiber fineness, are discussed. TTD: 6-48

Testing fiber fineness. Air flow resistance tests fiber fineness. Anon. *Textile World 98*, No. 1, 150 (Jan. 1948).

Fiber fineness may be rapidly and accurately measured by the Micronaire, an instrument which is based on the principle of forcing air through a plug of fibers of standard weight and determining the resistance of the fibers to air flow. TTD: 6-48

Testing flammability. Flammability varies with type test and fabric. Majorie W. Sandholzer, Natl. Bur. of Standards. *Textile World 98*, No. 3, 109-10, 186, 188, 190, 192, 194, 197 (Mar. 1948).

The vertical, horizontal and inclined tests for flammability are described and tests on different fabrics discussed. The most hazardous materials seem to be long napped fabrics and light net material.
LCL TTD: 6-48

Testing nylon. Shrinkage, swelling and measurements of nylon. Anon. *Rayon Textile Monthly 29*, No. 1, 67-69 (Jan. 1948).

A Shrinkometer is described on which successive measurements on the same skein are reproducible to within about 0.06 centimeters, maximum discrepancy, usually to within 0.03 centimeters. The machine measures shrinkage of yarns.
ASJ TTD: 6-48

Testing nylon hosiery. Snag tester for nylon hosiery. J. E. Smith & T. D. Johnson, Jr., E. I. du Pont de Nemours & Co., Inc. *Textile Industries 111*, No. 12, 195-6 (Dec. 1947); *Am. Dyestuff Rptr. 37*, 195-201, 209-10 (Mar. 22, 1948).

A snag tester, utilizing a strip of sandpaper as the

snagging surface, for testing the snag resistance of nylon hosiery is described, together with the best test procedure for its use. TTD: 6-48

Testing twist operations. Improve twisting operations by laboratory control. Horace L. Pratt. *Textile Industries 111,* No. 12, 82-6 (Dec. 1947).

A review of tests on stock in process prior to twisting and a description of the tests, equipment, and procedure for testing regular plied cotton yarn. It is believed that these tests will eliminate many problems in the twister room. TTD: 6-48

Testing yarn diameter. Yarn diameter is measured continuously. Anon. *Textile World 98,* No. 1, 144 (Jan. 1948).

The Diamatrol, an electronic instrument, measures yarn diameter without the use of contact gages. TTD: 6-48

Water absorption. Determination of the rate of water absorption of light-weight cotton fabrics. Jas. H. Kettering, Southern Regional Research Laboratory. *Am. Dyestuff Reptr. 37,* 73-75 (Feb. 9, 1948).

A rapid method using simple equipment has been developed for determining the rate of water absorption of light-weight cotton fabrics. It consists essentially of determining the time required for a disc of test fabric to absorb a measured volume of water from the surface of a porous plate.
WPU, jr. TTD: 6-48

Water repellent finishes. Water repellent finishes for service and protection. R. H. Armitage, U. S. Testing Co., Inc. *Textile Colorist 69,* No. 9, 28-29, 48 (Sept. 1947).

Descriptions of 4 water repellent tests for fabrics (spray test, hydrostatic test, impact penetration test, and total absorption test) are given. The trade name, manufacturer, fabric applied to, and properties of water repellent finishes are listed in table form. TTD: 6-48

Wearing apparel. Skin troubles from wearing fabrics. W. Schweisheimer. *Textile Mercury & Argus 116,* 921-3 (June 27, 1947).

Dermatitis from wearing apparel may come from dyes in the fabric that bleed, but in most instances it is caused by the finishes. A patch test for determining which part of a material is harmful to the skin is described. TTD: 6-48

Woolen fabrics. Testing wool fabrics. Anon. *Textile Mercury & Argus 116,* 746, 748 (May 23, 1947).

Methods of testing wool fabrics for fastness to light, washing, milling, weavability, and waterproofing are briefly reviewed. TTD: 6-48

WEARING QUALITIES OF WOOL. Lillian O. Lund, Ethel L. Phelps, Helen W. Norton & Barbara B. Miller. Bull. 6 of Agr. Expt. Station (State College, S. D.); May, 1947; 47 pp. TTD: 6-48

Chemical analysis IX 2

Dye determination. Determination of Methylene Blue. G. F. Davidson, Brit. Cotton Industry Research Assn. *Shirley Inst. Memoirs 21,* 29-39 (May, 1947).

The absorption of Methylene Blue by cotton cellulose involves measurements of concentration of the dye. Three methods for determining the concentration of Methylene Blue are described: (1) reduction of the dye to its leuco-compound by chromous sulfate and titration with potassium dichromate; (2) precipitation with dichromate and then titration; (3) visual and photo-electric colorimetry. TTD: 6-48

TEXTILE MILLS X

Buildings, machinery, power X 1

Belting. How to lower textile costs with modern belting. H. R. Pomeray, Goodyear Tire & Rubber Co. *Textile Forum 4,* 7-9, 40-2 (Winter, 1948).

Many problems due to high starting torques, long speed pick-up periods, or steady overloads may be solved by specialized belt design. A discussion of belt engineering in textile mills is given. TTD: 6-48

Boiler efficiency. New boiler room shows high efficiency. Anon. *Textile World 98,* No. 1, 131, 194 (Jan. 1948).

The use of 2 Sterling-type, low-head boilers and an integral-fired boiler (at Avondale Mills) has increased operating efficiency 20%. TTD: 6-48

Color and light. Color and light in industry. Jas. A. Meacham, Sherwin-Williams Co. *Textile Bull. 71,* No. 10, 23-4, 26, 63-4 (Jan. 15, 1947).

Color can be used as an aid to better lighting and can create a more favorable factory environment. A discussion of the reflective qualities and harmonies of color, colors for machinery and maximum illumination, etc. is given. TTD: 6-48

Electric power. Power factor improvement will cut mills' electric bill. W. H. Cuttino, Westinghouse Electric Corp. *Textile World 97,* No. 12, 149-51, 225-6 (Dec. 1947).

Installation of capacitors to supply magnetizing current

for motor fields, transformers, etc. will improve the electrical efficiency.
LCL TTD: 6-48

Electric wiring. Electric wiring for power. Jas. T. Meador. *Textile Bull. 71,* No. 9, 24, 26, No. 11, 29-30 (Jan. 1, Feb. 1, 1947).

Electric wiring for a cotton mill is discussed with details of installation of feeder branches which supply power to the various processing rooms. TTD: 6-48

Electrical wiring. Electrical code and textile mill wiring. Jas. T. Meador. *Textile Bull. 73,* No. 1, 28, 30, No. 3, 30, 32, 49-50, No. 5, 28, 30, 32, No. 7, 32-3, 56-8 (Sept. 1, Oct. 1, Nov. 1, Dec. 1, 1947).

Various methods of wiring and the National Electrical Code, rules applying to electric wiring and apparatus, are discussed. TTD: 6-48

Electrification. Electrification of southern textile industry. S. A. Bobe, Westinghouse Electric Corp. *Textile Bull. 72,* No. 2, 32, 34, 36, 38, 41, 73-5 (Mar. 15, 1947).

The importance of electric power and electrical equipment is shown in an outline of cotton manufacturing in the South. TTD: 6-48

Fuel economy. Improved heat balance raises production, saves fuel. Robt. W. Shoemaker, Rhode Island Worsted Co. *Textile World 98,* No. 1, 125, 194, 196 (Jan. 1948).

A high-pressure condensate-return system, installed (at Rhode Island Worsted Co.) in place of an atmospheric return system, has increased production 15-25% and reduced coal 10%, by returning the condensate at high temperature.
LCL TTD: 6-48

Knitting mill. Tricot mill versatile in equipment and methods. C. Mallard Bowden, Textile World. *Textile World 98,* No. 1, 112-13 (Jan. 1948).

A brief illustrated description of the expansion of equipment and methods of a knitting mill (A-Q Mills, Inc.). TTD: 6-48

Machine timing. Machine timing at full speed done by oscillograph. Morton Scheraga, Allen B. Du Mont Laboratories. *Textile World 98,* No. 1, 118-9, 188, 190, 191 (Jan. 1948).

Timing of any motion of textile machinery is possible by design of attachments to a cathode-ray oscillograph. Improvements in machinery and operations are possible.
LCL TTD: 6-48

Machinery lubrication. Full-fashioned machines require good lubrication. H. B. LeFeaux. *Textile World 97,* No. 12, 143, 222, 225 (Dec. 1947).

A 3-point program for proper lubrication of full-fashioned hosiery machines is presented. TTD: 6-48

Machinery maintenance. Metallizing useful in textile machine shop. Roy Campbell. *Textile World 97,* No. 12, 106-7, 232, 234, 236, 238, 240 (Dec. 1947).

Worn or damaged metal parts can be built up by spray metallizing and then machining. It is faster, cheaper, and more durable than welding. Some operating details are given.
LCL TTD: 6-48

Machinery problems. Mutual manufacturing problems discussed at Durham STA meet. Anon. *Textile Industries 111,* No. 12, 119, 123 (Dec. 1947).

The manufacturing problems included in the discussion were rubber squeeze roll covers, slasher waste, use of long quills on 58-inch modified "D" looms, methods of anchoring looms, top roll covering on drawing and roving frames, nylon bolsters and pneumatic roll pickers. TTD: 6-48

Machinery survey. Wool-mill needs revealed by machinery survey. Anon. *Textile World 98,* No. 1, 116-17, 186, 188 (Jan. 1948).

Higher speeds, less vibration and larger packages are improvements that are needed in worsted and woolen machinery as shown by a survey of 108 mills. The results of a survey of the organization of worsted spinning mills is shown in a series of charts. TTD: 6-48

Mill modernization. Joanna cotton makes major improvements. J. L. Delaney, Joanna Cotton Mills. *Textile World 98,* No. 3, 141, 142, 202, 204, 206, 208 (Mar. 1948).

Modernization of a mill (Joanna Cotton Mills), includes new and modern machinery, single-process roving, Regnery adapters, rotary screen filters for air, looms, and materials handling equipment.
LCL TTD: 6-48

Mill pilot plant. New department speeds fabric development. P. W. Thomas, Textile World. *Textile World 98,* No. 3, 133, 135 (Mar. 1948).

An active and adequate designing department, with an efficient and flexible pilot plant, fills in for Dan River between selling and manufacturing divisions. Experiments in the yarn pilot plant are carried out on all types of fibers to determine their characteristics and adaptability to cloth manufacture.
LCL TTD: 6-48

New machinery. New machinery equipment news. Anon. *Textile World 98,* No. 4, 147-56 (Apr. 1948).

Brief descriptions are given of the Kellogg loom, manufactured by the M. W. Kellogg Co.; the Model SA automatic variable striping machine developed by the Supreme Knitting Company; and the high speed hot air slasher developed by the Bachman Uxbridge Worsted Corp.

LCL TTD: 6-48

Painting machine. Bobbin painting machine. Anon. *Textile Industries 111,* No. 11, 93 (Nov. 1947).

An illustrated description of a bobbin painting machine and its operation. TTD: 6-48

Tension control. Tension controlled by variety of drives. A. P. Mansfield, Gen. Electric Co. *Textile World 98,* No. 2, 126-7, 129, 131, 222, 224 (Feb. 1948).

Uniform tension throughout yarn and cloth manufacture improves quality of product. Various electric measuring and control devices are sketched and discussed for spinning, warper, slasher, cloth finishing, and batcher tension control.

LCL TTD: 6-48

Lighting and air — X 2

Air conditioning. Air-conditioned plant solves cotton-lint problem. Geo. T. Lang. *Textile World 98,* No. 4, 118-9, 218, 220, 222, 224 (Apr. 1948).

A new plant in Argentine uses extensive air-conditioning with evaporative cooling. The location of ducts and the velocities of air are selected to provide conditions of optimum uniformity with minimum drafts. Details of construction are given.

LCL TTD: 6-48

Air conditioning. Refrigerated air-conditioning pays in half-hose mill. E. Dalton White. *Textile World 98,* No. 2, 137, 139 (Feb. 1948).

An air-conditioning system, installed for employee comfort, increased production and efficiency (at Spalding Knitting Mills). The installation includes an evaporative cooling system and a controlled refrigeration system.

LCL TT: 6-48

Fluorescent lighting. Lighting fixtures. Anon. *Textile Industries 111,* No. 11, 149 (Nov. 1947).

The fluorescent lighting fixture, RD-80, has internally mounted ballast, new GE turret sockets, and enlarged

wireway for continuous runs. It is particularly adaptable to textile industry requirements of lighting.

TTD: 6-48

Humidity in mills. High humidity in textile plants. W. Schweisheimer. *Textile Bull. 72,* No. 11, 22, 48 (Aug. 1, 1947).

Methods of controlling temperature and humidity in mills are discussed by E. F. Adolf in a recent Australian public health report. Among other things, the separation of process which produce much heat from those which produce little heat is recommended.

TTD: 6-48

Lighting. Some comparisons of mill lighting fixtures. Jas. T. Meador. *Textile Bull. 72,* No. 3, 26, 28, No. 5, 28, 44-5, No. 7, 26, 28, No. 9, 36, 38, 54, No. 11, 26, 28 (Apr. 1, May 1, June 1, July 1, Aug. 1, 1947).

Comparisons of 40-watt and 100-watt fluorescent tubes are given, including light output and light intensity. Calculations for a lighting system for an average cotton mill are also given with some details of wiring and method of hanging fixtures. TTD: 6-48

Wastes — X 3

Steam savings. Wasted BT's recovered by heat exchanger. Wm. T. Harding, Jr. Mechanical Equipment Co. *Textile World 98,* No. 4, 120-1 (Apr. 1948).

Annual savings of 70-90% of equipment investment have been realized by many mills by the installation of heat exchangers. Waste process waters and the condensate from dry cans, air driers, unit heaters are used to preheat fresh water for other uses. Prevention of contamination by leaks is important.

LCL TTD: 6-48

Waste collection. Scavenger waste collection simplified at Fieldcrest. Anon. *Textile Industries 111,* No. 11, 89 (Nov. 1947).

Waste collection from a spinning room may be simplified by placing a box with a swinging bottom on each frame. A box truck is then pushed under the waste box, the bottom of which is unhooked, and the waste dropped into the truck. Waste is removed from the truck by suction, utilizing the vacuum card stripping system.

TTD: 6-48

Waste control. Control of waste requires an adequate system. H. B. LeFeaux, Textile World. *Textile World 98,* No. 2, 122-3, 224, 226 (Feb. 1948).

Accurate records of current wastes with frequent checks

will keep hosiery mill wastes under control. Methods of keeping records are discussed.
LCL TTD: 6-48

Hazards; operations; efficiency X 4

Color in industry. Color is production tool. Saul C. Olin, Glidden Co. *Textile Forum 4,* No. 4, 12-15, 32-6 (Winter, 1948).

The importance of the correct use of color in textile mills is discussed together with a review of personal reactions to color and the use of color codes on machinery.
TTD: 6-48

Crankshaft end maintenance. Reversing worn crankshaft ends. Anon. *Textile Bull. 71,* No. 9, 26, 28 (Jan. 1, 1947).

The maintenance procedure for reversing worn crankshaft end bearing journals, as on looms, is described.
TTD: 6-48

Flow chart. Continuous filament flow chart. *Textile World 98,* No. 3, 103-8 (Mar. 1948).

A flow chart of continuous filament yarn production, including all the various continuous filament synthetics: rayon, glass, nylon, vinylidene chloride, etc.
LCL TTD: 6-48

Machinery maintenance. Maintaining singeing equipment at Bellman Brook Bleachery. Anon. *Textile Industries 111,* No. 12, 104 (Dec. 1947).

Suggestions and schedules are given to maintain singeing equipment at capacity production. TTD: 6-48

Materials handling. Beaumont has automatic starch control. C. Mallard Bowden. *Textile World 98,* No. 4, 122-3 (Apr. 1948).

Beaumont Mfg. Co. handles starch in bulk from storage bin to kettle. The bags are opened and dumped into a storage bin as they are received. Screw and elevator conveyors carry the starch to automatic weighing hoppers above the kettles. Savings in space, labor, and use of elevators have been realized.
LCL TTD: 6-48

Materials handling. Mechanical material handling in textile industry. V. G. Brookshire, Engineering Sales Co. *Textile Forum 4,* No. 3, 7-8, 24 (Fall, 1947).

A discussion of materials handling with a review of types of equipment used in various departments of a textile mill. TTD: 6-48

Materials handling. Materials-handling show draws many textile men. Wm. A. Newell, Textile World.

Textile World 98, No. 3, 114-16, 218, 220, 222, 224 (Mar. 1948).

A review of some of the new products and accessories shown at the 2nd Annual Materials-Handling show.
TTD: 6-48

Materials handling. Simple procedure governs care of resins. Richard E. Sumner, Am. Cyanamid Co. *Textile World 98,* No. 1, 133, 200, 202 (Jan. 1948).

In general, resin shipments should be examined upon receipt, stored in a cool place, and limited to 30-day supply. Manufacturers' directions should be carefully followed.
LCL TTD: 6-48

Materials handling. Industrial trucks in textile manufacturing. Anon. *Textile Bull. 71,* No. 12, 28, 30, 32, 34, 66-8 (Feb. 15, 1947).

The use of storage battery-powered trucks in the textile industry is discussed; examples of their use in Nonquitt Mills, Esmond Mills, and others are given.
TTD: 6-48

Materials handling. Unique conveyor simplifies spool handling. Anon. *Textile Bull. 72,* No. 3, 14 (Apr. 1, 1947).

An illustrated description of a conveyor system for handling roving spools between the card and spinning rooms (at Carleton Woolen Co.). TTD: 6-48

Spooling operation. Charts aid computing spooler's task. Rudolph Leppla, Forstmann Woolen Co. *Textile World 97,* No. 12, 110-11, 244, 248 (Dec. 1947).

Charts based on a job analysis and time study of the spooling operation are presented and discussed. The number of spindles for any amount of filling yarn and the number of spindles for each spooler may be determined from these charts. Efficiency in the spooling operation can be increased by use of the charts.
TTD: 6-48

Water supply. Water supply. Anon. *Chem. Eng. 55,* No. 1, 137-44 (Jan. 1948).

The report summarized factors which influence the quantity and the quality of water supply for industrial use. Each problem of water supply requires individual attention.
LCL TTD: 6-48

Basic sciences XI

Activity of detergents. Some correlating principles of detergent action. W. C. Preston, Procter and

Gamble Co. *J. Phys. & Colloid Chemistry 52,* 84-97 (Jan. 1948).

When quantitative data on the physical properties of detergent solutions are plotted against concentration the curves show the existence of a critical washing concentration which is characteristic of each detergent and which coincides with the critical concentration for colloid (micelle) formation. Detergent action, surface activity and colloid formation are different manifestations of the same characteristic of the detergent, and are all due to its long-chain ion. Colloid formation begins and washing power and surface activity reach their maximum at the concentration at which further additions of detergent either do not dissolve (low temperature) or dissolve to form micelles (higher temperature), and thus the number of long-chain ions in solution is not increased in either case. The critical washing concentration is essentially a function of the length of the non-polar hydrophobic grouping of the detergent. Solubilization of foreign matter is a function of the colloidal micelle and plays a secondary part in the usual washing process.

WPU, jr. TTD: 6-48

Alkali-sensitive oxycelluloses. Alkali sensitivity of aldehydes obtained by periodate oxidation of β-methyl glucoside, β-methyl cellobioside and cellulose. Frank S. H. Head, Brit. Cotton Industry Research Asn. *Shirley Inst. Memoirs 21,* 11-28 (May, 1947).

Oxycelluloses which possess reducing properties lose much fiber strength when treated with a mild alkali. By dealing with sugar derivatives, of simpler structure than cellulose, this problem is studied. The conclusion reached is that the sensitivity is due to alkaline hydrolysis of acetal linkages. TTD: 6-48

Mildewing of cellulosic materials. W. I. Illman & Muriel W. Weatherburn, Natl. Research Council of Canada. *Am. Dyestuff Reptr. 36,* No. 13, 343-44, 369-72 (June 30, 1947).

The growth of mildew on cellulosic materials is influenced by temperature and humidity. Growth increases in severity and occurs over a wider range of temperature as the humidity increases up to 100%. There is no growth at 60% R. H., and only slight growth at 70% R. H. Bleached cotton is less susceptible to rotting than is unbleached cotton. Extraction of gray goods with organic solvents has no effect on susceptibility to mildew.

EA TTD: 6-48

Starch and iodine. On nature of interaction between starch and iodine. R. S. Stein & R. E. Rundle. *J. Chem. Phys. 16,* No. 3, 195-207 (Mar. 1948).

It is postulated that the interaction between starch and iodine in the amylose-iodine complex is of dipolar nature, and a model for such dipolar interaction is proposed. The interaction energy is calculated as a function of a parameter x and it is shown that this parameter possesses a critical value, at which a "condensation" of iodine into the complex occurs. It is demonstrated that it is physically reasonable for this parameter to attain its critical value. It is shown that additional stabilization may occur as a result of the formation of a resonating "polyiodine" chain at high dipolar interaction having a I-I distance and heat of formation which compares favorably with experiment. Application of the theory is made in discussing the stability of the polyvinyl alcohol-iodine complex. The color of these complexes is discussed in terms of the theory.

GNR TTD: 6-48

TEXTILE RESEARCH XII

AATCC papers. New machines and methods revealed by AATCC papers. Anon. *Textile World 98,* No. 2, 147, 216, 218, 220, 222 (Feb. 1948).

Abstracts of papers presented at the annual meeting of the AATCC include: dyeing nylon staple, finishing machinery, anionic softeners, manufacture of blended fabrics, and detergents. TTD: 6-48

AATCC papers. AATCC papers cover new technology. Anon. *Textile World 98,* No. 3, 228, 230 (Mar. 1948).

Abstracts of papers presented at AATCC annual meeting are given. They include dye solubility determinations, crease resistant finishes effect on stiffness resiliency, and resin emulsions for printing and pad dyeing. TTD: 6-48

Cotton. Education, gray good defects, and cotton quality on South Carolina S. T. A. fall program. Anon. *Textile Bull. 73,* No. 8, 31-2, 34, 36, 38, 74-5 (Dec. 15, 1947).

Abstracts of 3 papers presented at S. T. A. meeting include: The J. E. Sirrine Textile Foundation and How it will Function by Geo. M. Wright; Cloth Defects in the Gray and How They Affect Bleaching by R. E. Rupp; Research and Development Toward Better Spinnability of Cotton by John T. Wigington. TTD: 6-48

Cotton industry. History of cotton textile manufacturing in United States—1787 to 1947. Anon. *Textile Bull. 72,* No. 12, 23-4, 27, 61 (Aug. 15, 1947).

The development of the industry is reviewed. TTD: 6-48

Japanese industry. Japanese textiles will be slow in revival. Japanese equipment and technology. A.

W. Jessup, McGraw-Hill World News. *Textile World 98,* No. 1, 101-7, 182, 184, 186 (Jan. 1948).

Japanese textile production is short on machinery, raw materials, and coal. Until 1950, half of the production must be exported. New labor laws are expected to eliminate starvation-wage levels. Equipment and technology vary from good to very poor.
LCL TTD: 6-48

Rayon research. Research and rayon industry growth. Fred Bonnet, Am. Viscose Corp. *Textile Bull. 73,* No. 2, 18, 21-2, 24, 26 (Sept. 15, 1947).

This is a paper presented at the Spinner-Breeder Conference on the development of rayon and the rayon industry. TTD: 6-48

Technical papers. Much new technology disclosed at AATCC gathering. Anon. *Textile World 97,* No. 12, 139, 141 (Dec. 1947).

Abstracts of papers presented at meeting in Chicago: tests for nylon hosiery snag resistance, rayon finishes, estimation of vat printing paste content of cloth, and nylon staple in hosiery.
LCL TTD: 6-48

Technical reports. AATCC technical papers cover wide range of subjects. Anon. *Textile World 98,* No. 1, 139, 216, 218, 220 (Jan. 1948).

Abstracts are given of AATCC papers on fire-resistance, vat-acid dyeing, wool scouring, nylon dyeing, hosiery finishing, wool-chlorine reactions.
LCL TTD: 6-48

Textile developments. Speaking of shrinkage. D. H. Powers, Monsanto Chemical Co. *Textile Forum 4,* No. 3, 18-19, 26-9 (Fall, 1947).

A review of the Resloom treatment for shrinkproofing fabrics, vinyl butyral plastic finishes, Syton treatment for zero slippage in nylon hosiery, flame-resistant processes, etc. TTD: 6-48

Textile industry. Annual review and forecast. Anon. *Textile World 98,* No. 2, 101 to 115 inc. (Feb. 1948).

Selected articles review textile situation for 1947 and make forecasts for 1948. Increased costs of labor,

equipment, and construction have led to more extensive planning and research.
LCL TTD: 6-48

Textile school. Functions and objectives of textile school departments. John F. Bogdan & Mrs. Ralph L. Byrd, North Carolina State College. *Textile Forum 4,* No. 3, 20, 22-3 (Fall, 1947).

The article discusses the research department and library of the Textile School of North Carolina State College. TTD: 6-48

Textile school. Functions and objectives of textile school departments. G. H. Dunlap, Henry A. Rutherford, W. E. Shinn, C. M. Asbill, Jr., North Carolina State College. *Textile Forum 4,* No. 4, 27, 29-32 (Winter, 1948).

The purpose and functions of the placement service for graduates, the chemistry and dye department, knitting department, and department of machine design and development at the Textile School of North Carolina State College are reviewed. TTD: 6-48

Textile schools. Plans made by textile schools for coming years. Anon. *Textile Colorist 69,* No. 7, 25, 60 (July, 1947).

A brief discussion of the future plans and new equipment of various textile schools, such as ITT, Lowell Textile Institute, etc. TTD: 6-48

Textile research. Integration of sciences in textile research. S. J. Davis, Callaway Mills. *Textile Bull. 72,* No. 8, 31-2 (June 15, 1947).

The need of coordinating the work of the chemist, physicist, biologist, agriculturist, and economist in textile research is discussed. TTD: 6-48

Textile research. Research now permeates all textile fibers and processes. Anon. *Textile World 98,* No. 1, 135, 216 (Jan. 1948).

A report on the annual meeting of the Textile Research Institute.
LCL TTD: 6-48

TEXTILE BRAND NAMES DICTIONARY, 1947. Anon. Textile Book Publishers, Inc., 303 Fifth Ave., New York, N. Y.; 380 pp.; price: $6.00.

Reviewed in *Textile World 98,* No. 3, 248 (Mar. 1948). TTD: 6-48

Index to Authors

VOLUME 5, NUMBER 6, JUNE 1948

Aiken, W. H. 285
Amick, C. A. 296
Ancet, V. M. J. 276
Anthony, A. D. 267
Armitage, R. H. 307
Asbill, C. M., Jr. 318
Barnhill, M. T. 294
Bley, R. S. 261
Block, H. M. 304
Bloomfield, G. M. 265
Bobe, S. A. 309
Bogdan, J. F. 318
Bonnet, F. 263, 302, 317
Borghetty, H. C. 284
Bouvet, R. 273
Bowden, C. M. 268, 269, 292, 309, 313
Brandt, P. 300
Brodie, J. B. 305
Brookshire, V. G. 313
Brother, G. H. 262
Brown, A. S. 261
Brown, F. G. 289
Buck, G. S., Jr. 259
Burleson, M. N. 284
Butler, J. B. 303
Byrd, Mrs. R. L. 318
Campbell, R. 310
Carter, C. R. 277
Carter, S. 268
Charch, W. H. 260
Clark, O. W. 296
Cotter, J. 284
Cramer, F. B. 260
Creely, J. W. 290
Crossley, M. L. 295
Cuttino, W. H. 308
Davidson, G. F. 308
Davis, H. S. 264
Davis, S. J. 318
Dean, J. D. 301
Delaney, J. L. 310
Dewas, R. 276
Dillon, J. H. 272
Dreyfus, H. 260
Droege 283
Dunlap, E. S. 287
Dunlap, G. H. 318
Edwards, O. G. 264
Elben 283
Elsworth, R. E. 299
Esselen, G. J. 263
Ethchells, A. E. 288
Feldmann, P. 297
Fidell, L. I. 295
Finck 299
Fischer 299
Fitzgerald-Lee, G. 259
Flanagan, G. W. 291
Flaxman 259
Fox, N. H. 276
Francis, C. S., Jr. 264
Freedman, E. 304
French, G. F. 279
Furry, M. S. 288
Galatioto, L. C. 297
Gassman, J. 272
Gaudin, H. D. 275
Gaunt, E. E. 265
Gibson, R. R. 270
Goldman, I. T. 291
Goldman, M. A. 278
Grant, J. A. 266
Graydon, M. H. 305
Greenwood, R. S. 269
Gross, M. 269
Gunther, D. H. 304
Gunther, F. H. 269
Gurley, M. H., Jr. 263
Haas, F. 282
Hale, R. E. 279
Haney, C. I. 261
Harbeck, R. M. 295
Harding, W. T., Jr. 312
Head, F. S. H. 315
Heinrich 281
Helle 282
Hentrich 285
Herr, H. E. 271
Hoening 291
Höllerer 281
Hopkins, J. R. 281
Horback, W. 260
Horton, R. 262
Howe, T. T. 280
Hubert 264
Hughes, O. 275
Idol, W. C., Jr. 278
Illman, W. I. 315
Impe, G. 259
Jachum 299
Jacoby, R. W. 296, 297
Jaeger, H. 283
Jaeger, W. H. 285
Jesse 261
Jessup, A. W. 316
Johnson, T. D., Jr. 306
Johnson, T. H. 278
Kahn, A. 304
Kaswell, E. R. 292
Kauffmann, H. O. 281
Kelly, A. J. 304
Kemmek 294
Kettering, J. H. 292, 307
King, J. L. 268
Kirst 298, 299
Köberle 298
Kottemann, O. A. 277
Lang, G. T. 311
La Rocque, S. W. 275
LeFeaux, H. B. 277, 310, 312
Lehmann 298
Leonard, E. A. 264
Leppla, R. 314
Lesser, M. A. 284
Lindsley, D. M. 305
Lis, L. 262
Little, R. W. 301
Loudenslager, O. W. 283
Lund, L. O. 308
Manning, F. W. 266
Mansell, R. 292
Mansfield, A. P. 311
Marschall 262
Martin, H. 270
Martin, M. E. 261
McEwen, R. L. 281
McMaster, E. A. 305
Meacham, J. A. 308
Meador, J. T. 309, 312
Miller, B. B. 308
Miller, J. T. 290
Millson, H. E. 295, 296
Mondaert, R. P., Sr. 291
Monforts, J. 274, 277, 283
Moody, F. B. 297
Morgan, O. M. 281
Müller 298
Münster 298
Newell, W. A. 288, 292, 313
Norton, H. W. 308
Olin, S. C. 313
Pagerie, M. 288
Paist, W. D. 260
Pelce, H. 276
Perloff, J. W. 297
Peters, R. H. 293
Petz 298
Phelps, E. L. 308
Pierce, E. S. 289
Plumb, D. S. 287
Plumlee, H. 294
Pomeray, H. R. 308
Powers, D. H. 303, 317
Pratt, H. L. 307
Preisler 300
Preston, W. C. 314
Rasero, L. J. 279
Ratti, R. 300
Ray, F. K. 300
Reckmann, G. 300
Rein 264, 266
Richards, J. C. 293
Risk, T. J. 270
Rohs, J. F. 285
Royer, G. L. 295, 296
Rubin, A. 280
Rundle, R. E. 315
Rutherford, H. A. 318
Sandholzer, M. W. 306
Sapper 282
Saupe, E. 278
Scheiderbauer, R. A. 293
Scheraga, M. 309
Schlick, A. 282
Schneider, A. K. 263
Schwabe, H. 282
Schweisheimer, W. 307, 312
Seymour, G. W. 261
Shanley, E. S. 281
Shinn, W. E. 318
Shoemaker, R. W. 309
Siefert 283
Siegrist, E. J. 294
Sixthor 262
Smith, F. 270
Smith, J. E. 306
Smith, L. 259
Smith, W. S. 306
Souther, R. H. 267
Speakman, J. B. 260
Specht, H. E. M. 299
Stein, R. S. 315
Stehle, R. B. 293
Story, T. H. 271, 280
Stowell, E. 263
Streng 271
Stuart, H. B. 270
Sullivan, D. J. 290
Sumner, R. E. 314
Taylor, W. I. 260
Thomas, P. W. 310
Tripp, F. 302, 304
Van Scherpenzeel, P. H. 272
Vickerstaff, T. 293
Vila, G. R. 289
Von Rüti 272
Wacker, A. 281
Watkins, W. W. 263
Weatherburn, M. W. 315
Weiss, E. E. 283
Wenrich, H. E. 273
West, E. E. 303
White, E. D. 280, 311
Whitten, N. L. 268
Wiedeman, O. F. 264
Wightman, G. 278
Wilson, J. E. 283
Winch, A. R. 264
Womble, G. F. 297
Wood, P. J. 287
Worner, R. K. 301
Worth, A. A. 271
Zimmerman, C. L. 293
Zitscher 298

Classification

This classification list is the basis for the arrangement of abstracts. Articles of general coverage are entered under the main classification. Papers which deal with a more limited and specific part of a subject are placed in an appropriate subclass. Where the original article treats two or more specific topics, the abstract is placed in a more general classification. As examples of this arrangement, the following are cited: An article comparing the properties of all organic fibers is placed under **"ORGANIC FIBERS I"** while another dealing specifically with protein fibers is placed under **"Protein fibers I 3 b."** If both protein and rayon fibers are mentioned, the abstract is entered in the next more general category, **"Artificial fibers I 3."**

I. **ORGANIC FIBERS** (physics, chemistry, manufacture)
   1. **Vegetable fibers** (cotton, flax, ramie, hemp, jute, sisal, etc.)
   2. **Animal fibers** (wool, silk, hair)
   3. **Artificial fibers** (derived from natural products)
      a. **Rayons** (cellulosic, viscose, cuprammonium)
      b. **Protein fibers**
   4. **Synthetic fibers** (made from synthetic high polymers)
   5. **Fiber applications** (not in yarns or fabrics)
   6. **Fiber processing** (oiling, etc.)

II. **INORGANIC FIBERS** (physics, chemistry, manufacture)

III. **FIBER TO YARN**
   1. **Fiber preparation** (opening, carding, drawing)
   2. **Blends**
   3. **Spinning** (including doubling and twisting)
   4. **Winding**
   5. **Yarn processing**
   6. **Yarn products** (thread, cordage, etc.)
   7. **Yarn applications** (not in fabrics)

IV. **YARN TO FABRIC**
   1. **Yarn preparation** (conditioning and warp sizing)
   2. **Weaving**
      a. **Looms**
      b. **Control devices** (stop motions, bobbin selectors, etc.)
      c. **Fabric construction**
   3. **Knitting**
      a. **Knitting machines**
      b. **Control devices**
      c. **Fabric construction**
   4. **Special fabrics** (pile, narrow, fancy)
   5. **Fabric processing** (tentering, drying, etc.)
   6. **Fabric applications**

V. **CHEMICAL RAW MATERIALS**
   1. **Plastics and elastomers**
   2. **Surface-active compounds**

VI. **CHEMICAL PROCESSING** (finishing, sizing, etc.)

VII. **COLOR**
   1. **Bleaching**
   2. **Dyeing**
   3. **Printing**
   4. **Measurement and defects**

VIII. **PROOFING** (water-, flame-, shrinkproofing, etc.)

IX. **TESTING AND ANALYSIS**
   1. **Physical properties**
   2. **Chemical analysis**

X. **TEXTILE MILLS**
   1. **Buildings, machinery, power**
   2. **Lighting and air**
   3. **Wastes**
   4. **Hazards; operations; efficiency**

XI. **BASIC SCIENCES**

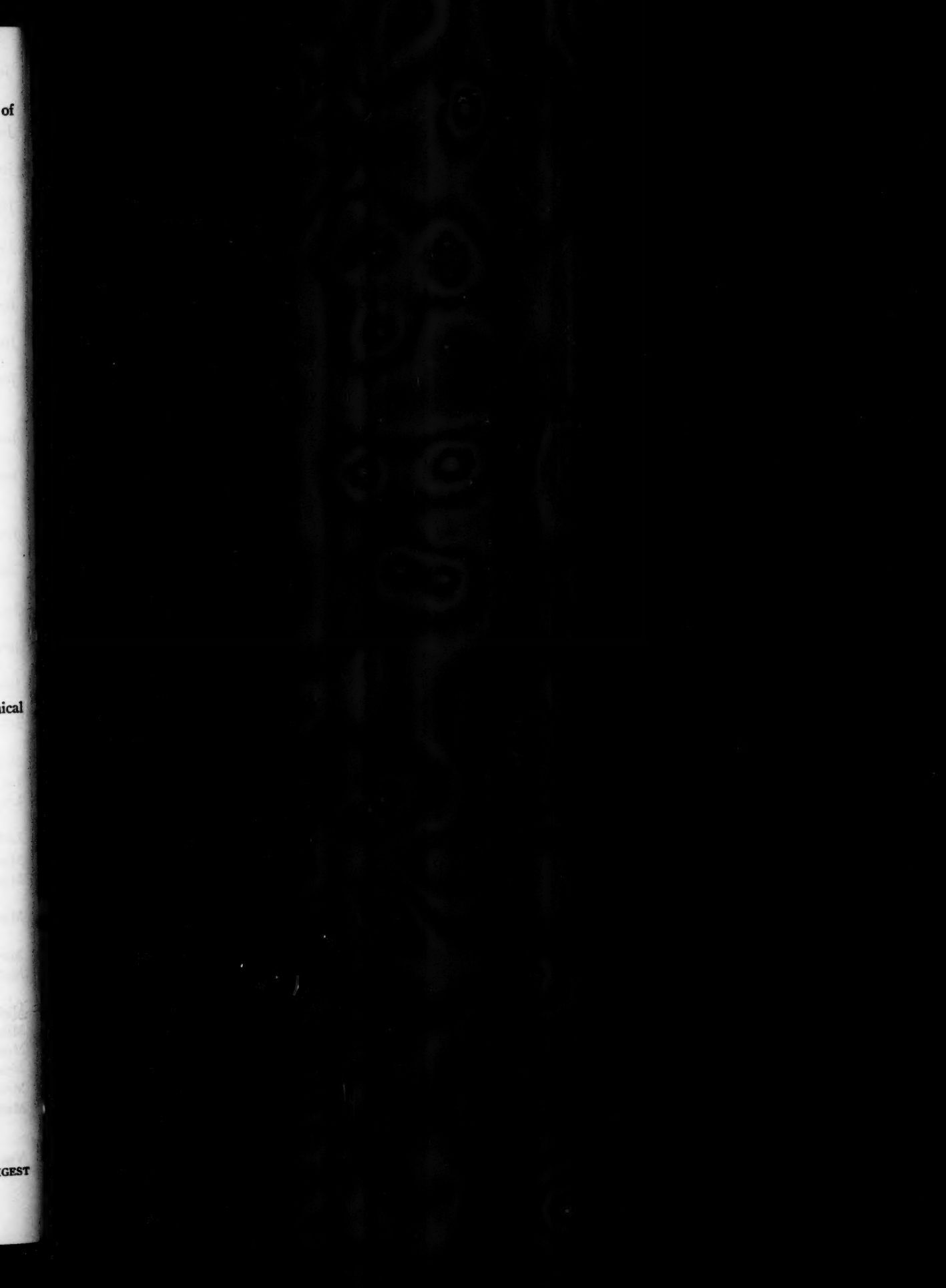
XII. **TEXTILE RESEARCH**

Periodicals Currently Reviewed

(Abbreviations used in reference citations are indicated below titles.)

Acta Physicochimica USSR
Acta Physicochim.
Alumni Bulletin, Rhode Island School of Design
Alumni Bull. R. I. School of Design
Ambassador
American Association of Textile Technologists, Papers of The
American Dyestuff Reporter
Am. Dyestuff Reptr.
American Journal of Physics
Am. J. Phys.
American Journal of Science
Am. J. Sci.
American Machinist
Am. Machinist
American Scientist
Am. Scientist
American Wool and Cotton Reporter
Am. Wool Cotton Reptr.
Analyst
Analytical Chemistry
Anal. Chemistry
Annalen der Chemie (Liebigs)
Ann. Chem. (Liebigs)
Annales de chimie
Ann. chim.
Annales de physique
Ann. phys.
Annali di chimica applicata
Archives of Biochemistry
Arch. Biochem.
ASTM Bulletin
ASTM Bull.
Australian Journal of Experimental Biology and Medical Science
Australian J. Exptl. Biol. Med. Sci.
Australian Official Journal of Patents, Trademarks and Designs
Bell Laboratories Record
Bell Labs. Record
Bell System Technical Journal
Bell System Tech. J.
Bibliography of Scientific and Industrial Reports
Bibl. Sci. Ind. Reports
Biochemical Journal
Biochem. J.
Board of Trade Journal
Board of Trade J.
British Cotton Industrial Research Association
Brit. Cotton Ind. Research Assoc.
British Plastics
Brit. Plastics
Bulletin de L'Institut Textile
Bull. de L'Institut Textile
Bulletin of the Institute of Paper Chemistry
Bull. Inst. Paper Chemistry
Bulletin of the Lowell Textile Institute
Bull. Lowell Textile Inst.
Bulletin de la Société chimique de France (Documentation and Memoires)
Bull. Soc. chim.
Bulletin de la societes chimiques Belges
Bull. soc. chim. Belges
Bulletin of the Virginia Polytechnic Institute
Bull. Virginia Polytech. Inst.
Calco Technical Bulletin
Calco Tech. Bull.
Canadian Chemistry and Process Industries
Can. Chemistry & Process Industries
Canadian Journal of Research
Can. J. Research
Canadian Patent Office Record
Canadian Textile Journal
Can. Textile J.
Chemical Engineering
Chem. Eng.
Chemical and Engineering News
Chem. Eng. News
Chemical Engineering Progress
Chem. Eng. Progress
Chemical Industries
Chem. Industries
Chemical Preview
Chem. Preview
Chemical Reviews
Chem. Rev.
Chemisch Weekblad
Chem. Weekblad
Chemist Analyst
Chemistry & Industry
Chemurgic Digest
Chimia
Chimie & industrie
Chronica Botanica
Chronica Botan.
Ciba Review
Ciba Rev.
Colorado Wool Grower and Marketer
Colorado Wool Grower
Comptes rendus hebdomadaires des seances de l'academie des sciences
Compt. rend.
Cord Age Magazine
Cord Age Mag.

Corrosion and Material Protection
Corrosion & Material Protect.
Cotton (see *Textile Industries*)
Cotton Gin & Oil Mill Press
Cotton Trade Journal
Cotton Trade J.
Die Makromolekular Chemie
DuPont Magazine
DuPont Mag.
Dyer, Textile Printer, Bleacher and Finisher
Dyer
Dyestuffs
Economic Botany
Econ. Botany
Electrical Engineering
Elec. Eng.
Electrical World
Elec. World
Electrical Equipment
Electronic Industries and Electronic Instrumentation
Electronics
Empire Cotton Growing Review
Empire Cotton Growing Rev.
Engineering
Engineering News-Record
Eng. News-Record
Experimental Station Record
Expt. Sta. Record
Fibre and Fabric
Fibre & Fabric
Fibres
Fibres, Fabrics & Cordage
Flow
Foreign Commerce Weekly
Fortune
Frontier
Gazzeta chimica italiana
Gazz. chim. ital.
General Electric Review
Gen. Elec. Rev.
General Microbiology
Gen. Microbiology
Government Publications (Great Britain)
Govt. Publications (Great Britain)
Heating, Piping and Air Conditioning
Heating, Piping & Air Conditioning
Heating & Ventilating
Helvetica Chimica Acta
Helv. Chim. Acta
India Rubber World
Indian Cotton Growing Review
Indian Cotton Growing Rev.
Indian Textile Journal
Indian Textile J.
Industrial Bulletin of Arthur D. Little, Inc.
Ind. Bull. A. D. Little, Inc.
Industrial and Engineering Chemistry, Industrial Edition
Ind. Eng. Chemistry
Industrial Journal of Physics
Ind. J. Physics
Industrial Standardization
Ind. Standardization
Industry & Power
Institute News
Inst. News
Instrumentation
Instruments
Interchemical Review
Interchem. Rev.
Journal of the Acoustical Society of America
J. Acoust. Soc. Am.
Journal of Agricultural Research
J. Agr. Research
Journal of the American Chemical Society
J. Am. Chem. Soc.
Journal of Applied Mechanics
J. Applied Mechanics
Journal of Applied Physics
J. Applied Physics
Journal of Biological Chemistry
J. Bio. Chem.
Journal of Chemical Education
J. Chem. Education
Journal of Chemical Physics
J. Chem. Physics
Journal de chimie physique
J. chim. phys.
Journal of Colloid Science
J. Colloid Sci.
Journal of Engineering Education
J. Eng. Education
Journal of the Indian Chemical Society
J. Indian Chem. Soc.
Journal of Home Economics
J. Home Econ.
L'Industrie Textile
Journal of the Institute of Electrical Engineers (London)
J. Inst. Elec. Engrs.
Journal of the Optical Society of America
J. Optical Soc. Am.
Journal of Organic Chemistry
J. Org. Chemistry
Journal of Physical and Colloid Chemistry
J. Phys. & Colloid Chemistry
Journal of Physics (USSR)
J. Phys. (USSR)
Journal of Polymer Science
J. Polymer Sci.

Journal of Proceedings of Institute of Mechanical Engineers
J. Proc. Inst. Mech. Engrs.
Journal of Research of the National Bureau of Standards
J. Research Natl. Bur. Standards
Journal of Scientific and Industrial Research (India)
J. Sci. Ind. Research (India)
Journal of Scientific Instruments
J. Sci. Instruments
Journal of the American Oil Chemists' Society (Formerly *Oil & Soap*)
J. Am. Chem. Soc.
Journal of the American Society of Agronomy
J. Am. Soc. Agronomy
Journal of the American Water Works Association
J. Am. Water Works Assoc.
Journal of the Association of Official Agricultural Chemists
J. Assoc. Official Agr. Chemists
Journal of the Chemical Society
J. Chem. Soc.
Journal of Australian Council for Scientific & Industrial Research
J. of Australian Council for Sci. & Ind. Research
Journal of the Franklin Institute
J. Franklin Inst.
Journal of the Optical Society of America
J. Optical Soc. Am.
Journal of the Society of Chemical Industry
J. Soc. Chem. Industry
Journal of the Society of Dyers and Colourists
J. Soc. Dyers Colourists
Journal of the Textile Institute
J. Textile Inst.
Jute and Canvas Review
Jute & Canvas Rev.
Knitter
La Chimica e L'Industria
Linens and Domestics
Linens & Domestics
Lubrication
Machine Design
Manufacturers' Record
Mfrs'. Record
Mechanical Engineering
Mech. Eng.
Mechanization
Melliand Textilberichte
Melliand Textilber.
Mid-South Cotton News
Mikrochemie
Modern Industry
Modern Materials Handling
Modern Plastics
Monsanto Magazine
Monsanto Mag.
Monthly Catalog of U. S. Public Documents
Monthly Checklist of State Publications, Library of Congress
National Canvas Goods Manufacturers Review
Natl. Canvas Goods Mfrs. Rev.
National Fire Protection Association Quarterly
Natl. Fire Protect. Assoc. Quart.
Natural & Synthetic Fibers
Nature
Norsk Tekstiltidende
Nucleonics
Official Gazette of the U. S. Patent Office
Oil, Paint & Drug Reporter
Oil, Paint & Drug Reptr.
Paint Technology (The Paint Trade's Journal (British))
Paint Technol.
Paper Trade Journal
Paper Trade J.
Papers of the American Association of Textile Technologists
Papers Am. Assoc. Textile Technologists
Patent-Liste (Swiss Patent Office)
Philips Technical Review
Philips Tech. Rev.
Philosophical Magazine
Phil. Mag.
Physical Review
Phys. Rev.
Plastics
Plastics Reporter
Plastics Reptr.
Plastics World
Platt's Bulletin
Platt's Bull.
Power
Proceedings of the Institute of Radio Engineers and Waves and Electrons
Proc. Inst. Radio Engrs.
Proceedings of the National Academy of Sciences
Proc. Natl. Acad. Sci.
Proceedings of the Physical Society
Proc. Phys. Soc.
Proceedings of the Royal Society (London)
Proc. Roy. Soc.
Proceedings of the Swedish Institute for Textile Research
Proc. Swed. Inst. Textile Research
Product Engineering
Product Eng.
R. C. A. Review
R. C. A. Rev.
Rayon Organon
Rayon Textile Monthly
Record of Chemical Progress
Record Chem. Progress
Recueil des travaux chimiques des Pays-Bas
Rec. trav. chim.

Refrigerating Engineering
Refrig. Eng.
Research
Research Engineer
Research Engr.
Resins-Rubbers-Plastics
Review of Scientific Instruments
Rev. Sci. Instruments
Reviews of Modern Physics
Rev. Modern Physics
Rohm & Haas Reporter
Rohm & Haas Reptr.
Saco-Lowell Bulletin
Saco-Lowell Bull.
Safety Engineering
Safety Eng.
Science
Scientific Monthly
Sci. Monthly
Sewage Works Engineering
Sewage Works Eng.
Sewage Works Journal
Sewage Works J.
Shirley Institute Memoirs
Shirley Inst. Memoirs
Silicate P's and Q's
Silicate P's & Q's
Silk and Rayon
Silk & Rayon
Silk Journal & Rayon World
Silk J. Rayon World
Soap and Sanitary Chemicals
Soap & Sanitary Chemicals
Southern Power and Industry
Southern Power & Industry
Southern Textile News
Special Libraries
Staley Journal
Staley J.
Svensk Kemisk Tidskrift
Svensk Kem. Tid.
Svensk Papperstidning
Svensk Tidskrift för Industrielt Rättsskydd
Svensk Tids. Ind. Rättsskydd
Synthetic Organic Chemicals
Synthetic Org. Chem.
Technical Book Review Index
Tech. Book Rev. Index
Technical News Bulletin of the National Bureau of Standards
Tech. News Bull. Natl. Bur. Standards
Technology Review
Technol. Rev.
Tekstil'naya Promyshlennost
Tekstil'naya Prom.
Tele-Tech
Textielwezen
Textil och Konfektion
Textil-Rundschau
Textile Age
Textile Bulletin
Textile Bull.
Textile Colorist and Converter
Textile Colorist
Textile Finishing Bulletin
Textile Finishing Bull.
Textile Forum
Textile Industries
Textile Journal of Australia
Textile J. Australia
Textile Manufacturer
Textile Mfr.
Textile Mercury & Argus
Textile Recorder
Textile Research Journal
Textile Research J.
Textile Weekly
Textile World
Tidsskrift for Textilteknik
Tids. Textilteknik
Transactions of the American Society of Mechanical Engineers
Trans. Am. Soc. Mech. Engrs.
Transactions of the American Society for Metals
Trans. Am. Soc. Metals
Transactions of the Faraday Society
Trans. Faraday Soc.
Traveler
Verfkroniek
Wallerstein Laboratory Communications
Wallerstein Lab. Communications
Warp Sizing Specialist
Wool Record and Textile World
Wool Record & Textile World